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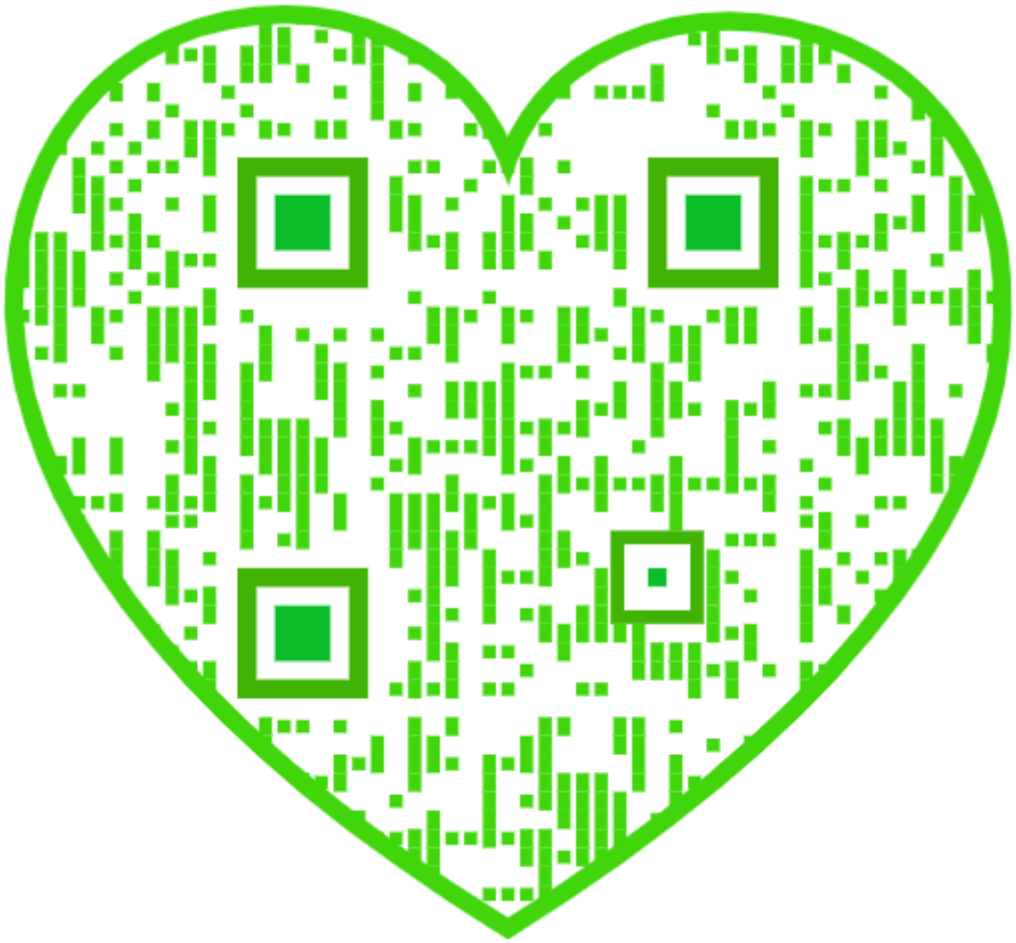
HUMPHREYS' VETERINARY MANUAL



LIST OF

HUMPHREYS'

VETERINARY REMEDIES

		Price of Single Bottle
A.A.	**For Fevers, Congestions and Inflammations,** as of the Lungs or Pleura, Inflammation of the Head or Brain, Eyes, or of the Liver or Belly; Sore Throat or Quinsy; Blind or Belly Staggers, or Convulsions; Hot Skin; Quick Pulse; Chill or Panting; Milk Fever in Cows	.60
B.B.	**For Diseases of the Tendons, Ligaments,** or Joints: Founder, Curb, Strains, Stiffness, Lameness, Rheumatism, Splint, Stifle	.60
C.C.	**For Diseases of the Glands, Epizootic,** Distemper in Horses or Sheep; Nasal Gleet; Discharges from the Nose; Swelled Glands; Scab in Sheep; Distemper in Dogs	.60
D.D.	**For Worm Diseases; eradicates them** from the system; either Bots or Grubs, Long, Round Pin, or Tape-Worms, Colic or emaciation from Worms	.60
E.E.	**For Diseases of the Air-passages; Cough,** Influenza, Heaves, Broken Wind or Whistles, Thick Wind, Inflamed Lungs with quick panting hard or difficult Breathing	.60
F.F.	**For Colic, Spasmodic, Wind, or Inflammatory** Colic; Belly-ache; Gripes, Hoven or Wind-Blown; Diarrhea, or Dysentery; Liquid or Bloody Dung	.60
G.G.	**To prevent Miscarriage, Casting of Foal or Calf,** arrest Hemorrhage; throw off the afterbirth	.60
H.H.	**For Diseases of the Kidneys, Bladder,** or Urinary Passages; as Inflammation, or Scanty; difficult, painful, suppressed, or bloody Urination; Kidney Colic	.60
I. I.	**For Cutaneous Diseases or Eruptions,** Grease, Thrush, Swellings, Abscesses, Fistulas, Ulcers, Unhealthy Skin, Rough Coat	.60
J.K. Formerly J.J.	**For Diseases of Digestion, Out of Condition,** and "Off his Feed"; Results of Over-Feed, Jaundice or Yellows; Ill Condition, Staring Coat; also, Paralysis, Stomach Staggers, Brittle Hoofs	.60

STABLE CHART MAILED FREE

Humphreys' Homeo. Medicine Company

Cor. William and Ann Sts., New York

MANUAL

— OF —

Veterinary Homeopathy

COMPRISING DISEASES OF

Horses, Cattle, Sheep, Hogs, Dogs and Poultry

AND THEIR

Homeopathic Treatment

BY

F. HUMPHREYS, M. D., V. S.

LATE PROFESSOR, AUTHOR, ETC., ETC.

Humphreys' Homeopathic Medicine Co.

Corner William and Ann Streets

NEW YORK

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GOLD MEDAL

Dr. Humphreys' Remedies received medals in the International Exhibitions of Hygiene.

Centennial Exhibition Argentine Republic 1910.
Exhibition of Hygiene United States of Brazil 1909.
Exhibition of Hygiene Argentine Republic 1904

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APR -8 1922

PREFACE

The world owes much to Homeopathy—more probably, than has ever been told, or will ever be known. It is something to be emancipated from drugs, from lancets, leeches, blisters and poisons; but it is more, to be relieved from the fear of them, and to be restored and preserved by forces mild as love, and gentle as the dews of heaven —forces unknown and unrevéaled, until elicited by the genius of this system.

But these benefits are not confined to the human species. Animals may enjoy them as well; and heaven knows how much they need them. For to them the day of sickness is not merely the day of doom, but of suffering and of torture as well. Ignorance and cruelty seem to have controlled this branch of medicine—not that men are of necessity careless in regard to the lives of their animals, or designed cruel as to the measures used to restore them when sick; but so little real knowledge prevails concerning their diseases, and so much error as to the proper methods of cure, that the most absured and cruel measures almost of necessity prevail with corresponding results. Some judicious stock-owners, taught by experience the fatality of the common methods of treatment, notwithstanding the torture and expense, have more humanely, if not more wisely, abandoned all treatment, preferring to let nature contend with disease alone, rather than with disease and drugs united. But, thanks to Homeopathy, there is a better way.

For many years past, Homeopathy has been applied to the diseases of all domestic animals in Europe, with the most brilliant success. In this country, and the British Isles, within the last few years, not only have individual practitioners applied its remedies with equal success, but some large veterinary institutions, and most of our principal traveling equestrian troops and menageries, employ it exclusively in all diseases of their horses, experience having shown them its great value and curative power, and its immense superiority over every other method.

But the inherent intricacies of the system rendered its general introduction for the cure of animals impracticable; and though, in the hands of some practitioners and some veterinary surgeons, it worked wonders enough to show its astonishing capacities, yet to the masses it has remained a sealed book.

The principal of Humphreys' Homeopathy, which has proved so efficient in popular use, we have now applied to the diseases of domestic animals, and, from numerous trials, have proved it an entire success. With this Case and Manual every owner of stock may know every ailment among them, and can treat it successfully.

Not among the least benefits conferred by this new method is the ease and simplicity with which the proper medicine is administered. No tying, bottling, struggling, or choking are necessary. A neat little glass instrument (the Medicator) is put into the medicine, and takes up the requsite dose—a few drops—and at the proper moment, is placed in the mouth of the animal and discharged; in an instant the dose is given, and an amount of labor is thus saved to the owner, and of suffering to the animal, which is by no means trivial. Hundreds of animals annually die, or are rendered valueless from disease and drugging, that may be saved and promptly restored by the use of the Case of Veterinary Remedies. Several of our most experienced horsemen have given it their unqualified commendation, and use it daily in their establishments.

In the execution of this design I have consulted every authority and drawn upon every resource within my reach, and the experience of each has been made to contribute to the perfection of the whole, and all has been combined and compared with my many years of observation, study, and experience in the practice of Homeopathy. We flatter ourselves that for simplicity, completeness, and reliability it will commend itself to the judgement of a discerning public.

F. HUMPHREYS, M. D., V. S.

INTRODUCTION

Proper and enlightened attention to the wants of Domestic Animals, is not only a sentiment of humanity, but a dictate of economy. To know at least in good part what is the particular ailment of an animal, and to know also how to relieve it, would seem to be a necessary obligation of ownership. The least we can return to the many faithful animals given us, is to provide for their reasonable wants, not only in health, but also in sickness and disease. Not that every man who owns a horse, should be necessarily a veterinary surgeon; and yet the way is so simple that any intelligent person may readily cure a very large proportion, nay, almost every disease to which his animals are exposed, and yet bestow upon the subject only a moiety of attention.

Among the many blessings that Homeopathy has conferred upon the world, not among the least is the immense improvement which it has effected in the treatment of the diseases of Domestic Animals. With but little variation, to meet their peculiar habits and susceptibilities, the same remedies which have been so efficient in mitigating and curing the disease of men, women and children, have been found equally successful in arresting the diseases to which all classes of Domestic Animals are liable. The contrast is even greater. Probably from the fact that treatment of sick animals has been but little understood, and intrusted to the hands mainly of ignorant persons, who have pursued the most crude, cruel and destructive measures, often far more dangerous and life-destroying than the disease itself, a large proportion of the sick have died or been tortured to death. But when the same diseases are subjected to the mild and benign influence of intelligent Homeopathic treatment, it is found that almost every disease among them is within control, even the most fatal yielding to its magic influences.

Although at first sight it may seem strange, that animals should be successfully treated by the mild and apparently insignificant doses of Homeopathy, yet a moment's reflection will suffice to give many reasons why this should be

so. Even were it not susceptible of explanation, experience has abundantly demonstrated the fact, that animals are, if possible, even more susceptible to Homeopathic treatment than men, and its success in their case is even more striking and brilliant.

This may be, perhaps, attributed to their more regular habits, confinement to the same food and drink, absence of excitement, and freedom from the many articles of food and drink in use among the human species, which are more or less medicinal.

Owing to these circumstances, animals are very impressible, and the doses for them need not be so much larger than for the human species. It seems to be a law of nature, that the more delicate the organism, the more subject to disease. Wild animals are almost entirely exempt, while the highly artificial lives of some Domestic Animals render them subject to numerous ailments and to some very formidable diseases. Yet, as a whole, animals are far less subject to disease than men, and far more amendable to cure.

The treatment of Domestic Animals with HOMEOPATHIC REMEDIES, has numerous advantages.

THE MEDICINES ARE GIVEN AT ONCE and without trouble or annoyance, even without taking a horse from his team, or a cow from her stall. THEY PRODUCE NO POISONOUS OR PROSTRATING EFFECT so that the animal rallies at once, and without loss or deterioration of value. ANIMALS RECOVER MUCH SOONER and hence are able to resume work much earlier after sickness, than under any other system. But more than all, it is far more successful. Slighter diseases yield at once, and often from a single dose, while the most formidable cases that are almost absolutely incurable under old treatment, even when well conducted, often respond to the curative influence of Humphreys' Homeopathic Remedies, while it is well known that even when animals recover under the old system of treatment such have been the ravages of disease and medicine, that their value and usefulness are generally destroyed.

ADVANTAGES OF

Humphreys' Veterinary Remedies

OVER ANY OTHER SYSTEM, OR MODE OF TREATMENT FOR STOCK.

I—Humphreys' Veterinary Remedies, are not an experiment. They have been in use among FARMERS, BREEDERS, LIVERY STABLE AND TURFMEN, HORSE RAILROAD, EXPRESS, MINING and MANUFACTURING COMPANIES, MENAGERIES and HIPPODROMES, and others handling large numbers of horses and other stock, with complete success for over sixty years.

II—You have a remedy for any particular Disease or Complaint. For Colic, or **Cough,** or **Founder,** or **Heaves,** or **Pneumonia,** or **Indigestion,** or **Disease of the Kidneys,** or **Urinary Passages, Strains,** or **Lameness.** You have it in **compact, portable form.** You know just **what** to do, and **how** to do it.

III—Their use is free from danger to the Animal. In the usual treatment, the medicines are either rank poisons or the most violent alteratives. It is a common experience, that, if the horse finally lives through the treatment he is worthless from the effects of the medicines. Thousands of good horses are every year killed by drugs. In HUMPHREYS' REMEDY system you are absolutely free *from all such danger.*

IV—They are simple. Being Remedies for particular diseases you know at once what to give. You can scarcely make a mistake. Even if you do, you have only lost your time, and have not killed the animal. When using the common veterinary drugs, a mistake is often fatal.

V—They are readily and easily given. You need not lose a moment. The REMEDY is ready just as you want it. With the Medicator you take the dose from the bottle and place it upon the tongue of the animal, without loss of time or danger. No bottling, balling, choking, or strangling—irritating the animal and endangering the owner or his help.

VI—They act more quickly than any other Medicine. HUMPHREYS' REMEDIES act through the medium of the nerves and the blood, rather than through the digestive organs. They begin to act before other medicines even reach the stomach.

VII—Every Ten Dollars invested in Humphreys' Veterinary Remedies will save you $100.00 and every HUNDRED will save a THOUSAND IN PROPERTY, besides an equal amount in time, trouble and care.

VIII—The saving in loss of stock is from one-half to three-fourths. This is the testimony of hundreds of horsemen.

IX—THE TREATMENT is humane, and if we may be humane as well as skillful, surely we should prefer it.

X—Diagnosing the disease and giving of medicine is such, as any sensible, faithful man of ordinary intelligence can master without difficulty.

We could annex Ten Thousand Testimonials of their efficacy.

CAUTION

☞ Take care not to confound DR. F. HUMPHREYS' VETERINARY REMEDIES with the *spawn of imitations* which the wonderful success of his REMEDIES has warmed into existence. Imitators have taken *his labels, his doses* and *directions,* and even *his name,* under which to impose their IMITATIONS upon the public. Care should be exercised to avoid impositions. Several parties have reported the *loss of valuable stock* through the use of these imitations.

Doses, How Much?

It is an error to suppose that animals require very large doses of Humphreys' Homeopathic Medicines, for experience has shown sick animals to be very impressible, and easily influenced by appropriate medicine, and in general, not to require as frequent repetitions as the human subject. Those who are accustomed to give large and powerful doses of poisonous medicines in order to produce some revulsive action, such as a cathartic or sudorific, or even as an alterative, can not from hence infer the proper quantity required when only a curative result is desired.

Only experience, hence, can answer the question, How much? And experience has amply shown that for horses ten to fifteen drops is the range of doses best adapted in ordinary cases, and that while cattle and hogs require rather more, sheep and dogs require less than the doses mentioned. We have indicated in each disease the dose supposed to be best for that particular case, yet to give two or five drops more in any given case would probably not be hurtful, while to give a few drops less would not endanger the curative action for want of the requisite quantity. The truth is that precision in quantity is not indispensable to a cure. The doses indicated we think are best, but a deviation from them is by no means fatal. One physician gives much more and another many times less, and both are successful. Medicine gives a curative impulse often as well or better with five or ten drops as with more. Besides, in giving medicines to animals, from their restlessness, dodging the head, and other similar disturbing circumstances we can not, and happily need not, be very positive. Give doses as near directions, as you may be able, and the result will be satisfactory. The best and safest rule is always to follow directions given in book, chart, and on bottles. It is unsafe for you to assume that you know more than the man who made the medicine and has had many years experience and observation in using them. Young animals require but half as much as grown ones.

Repetitions—How often?

The effects of Humphreys' Homeopathic Remedies are very prompt and positive. Often immediate, in cases of colic or other forms of neuralgia, as the medicine acts at once through the medium of the nervous system. In other acute cases, such as inflammations, the effect is equally as prompt but not so openly manifest. The medicine placed in contact with the nervous papilla of the tongue is at once by means of this connection conveyed over the entire system, while the stomach being a secreting rather than an absorbing surface, repels rather than absorbs a medicinal influence, so that medicines act better for being placed on the tongue than when they are introduced into the stomach.

The time to repeat is when the good effect has terminated. All rules of repetition are based upon this axiom. Thus, in colic and inflammation of the bowels, we repeat every fifteen, thirty or sixty minutes. In inflammation of the lungs, or chest, head, or other noble organ, or in pneumonia or similar acute diseases, we repeat once in two, three or four hours. In the yet less severe forms of disease, such as Fevers, Founder, Strangles, Distemper, Lameness, or similar diseases, a dose once in four hours, or four times per day, is quite sufficient. While in Coughs, Heaves, Ulcers, Eruptions, and similar affections, if recent, a dose morning and night is ample. In old chronic affections, a dose every day, is better than more frequent repetitions. In most cases these Remedies continue to act for weeks after having been given if undisturbed by the use of other medicines.

Alternation of Remedies

In general but one medicine is required for a disease, and it may be repeated from time to time. But cases are often met with where two Remedies are indicated at the same time, one to meet one phase of the disease, and a different Remedy to meet another. In all such cases the two medicines are given *alternately.*

Thus give a dose of one Remedy and then, after the proper interval give the other Remedy, and thus continue the two *alternately,* at such intervals as the directions demand. Nor should we be deterred from the use of a remedy in a particular case, because the name given it indicates a different use, for a medicine may be curative for a particular disease, and equally so for a different or even seemingly opposite one.

How to Choose the Remedy

In the use of my Homeopathic Remedies nothing can be more simple than the choice of the Remedy, while in attempting to use the ordinary Homeopathic preparations, the choice of the remedy is very difficult and intricate. From an examination of the animal you will have some idea of the nature of its disease, and will at once turn to the Index and page in the Manual describing that and similar diseases. Continue the search until the true description is found, and the proper treatment pointed out. *If in doubt* as to the particular remedy always give A.A. It rarely fails to help, and prepares the way for other remedies when they are required and gives you time to think and observe. Many good practitioners always give A.A. first. It is not necessary that all the symptoms given should be present, as the Remedy in all cases has a wider range of action than the disease.

If a sufficient length of time has passed to clearly show that no good has resulted, the case should be looked over again, and a more appropriate Remedy selected.

How to give the Remedy

Not among the least recommendations for the use of my Homeopathic Remedies, is the ease and facility with which they may be administered. No tying, struggling, or choking are necessary. The animal should be approached quietly, usually on the OFF SIDE if the Medicator is to be used, and medicine placed, if possible, upon the tongue, well back—thence it is absorbed, and acts at once through

the medium of the nervous system. The simplest medium of doing this is best. For this purpose the use of the Medicator is best—a small glass instrument invented by me. It is about five inches in length, made of firm, heavy glass tubing (*see 4th cover page*), the lower third bent so as to readily enter the lips. The upper end is funnel-shaped the size of the end of the finger, and covered with an air-tight rubber cap, so as to form an air receiver. The Medicator, taken in the right hand, with the fore-finger upon the top or rubber valve, is introduced into the proper vial, and pressing slightly upon the valve the air is exhausted, and on removing the finger the fluid is forced up into the tube sufficient for a dose. A little experience will enable one to take up five, ten or more drops as may be required. The Medicator thus charged with the dose, can, at the convenient moment, be inserted just within the lips of the animal's mouth, the farther back upon the tongue the better, when a slight pressure upon the top of tube injects contents, and medicine is given.

The Medicator should be held upright; never turned down or held horizontally; as the air is thus introduced and the medicine may drop out. Held upright until it is quietly inserted between the lips of the animal, no such difficulty occurs. Nor is it necessary to push the tube far enough into the mouth to expose it to the danger of being broken or crushed between the teeth. The moment fluid from tube comes upon the tongue the animal will open its mouth, and in an instant the medicine is injected upon the tongue or in the mouth, and the operation is finished.

In other cases the tongue may be gently hooked out of the mouth with the finger, and the medicine may be dropped or turned upon it. Horses are fond of sugar, and the medicine may be dropped upon a small lump, and fed from hand. After a few times they will call for their sugar when the owner comes into the stable, at the proper time. With cattle or sheep, raise the head a little and inject the medicine with the medicator, or pull the tongue out on one side, and drop or eject the medicine upon it.

Hogs usually, when sick, lie quietly upon the side, and medicine may hence be injected into the mouth with Medicator, or be given in a spoonful of sweet milk, poured in between the jaws, or given them to drink. Care must be taken in giving fluid to hogs, not to forcibly raise the head, as they are easily strangled—even to death. Dogs may have the medicine in a little sweet milk, or it may be even turned in through the nose. Yet the Medicator is an improvement upon all these plans, as it takes up and discharges the proper dose at once.

N. B.—Take off the rubber cap, and cleanse the Medicator when using it for different medicines.

Housing and Care of Sick Animals

When an animal shows signs of illness, it should be immediately cared for. The horse, unless in cases of very slight Colic, or other ailment, when the medicine be given at once, and his work continued, should be placed in a roomy, convenient and warm stall, well littered, with plenty of dry bedding, and well blanketed, unless in very warm weather. Cattle, Sheep and Hogs, as soon as it is noticed that they are sick, should be separated from the herd or flock, and placed in comfortable, well littered and especially dry apartments. This is necessary not only to prevent disease spreading to other stock on the farm, but for the convenience of nursing them, giving them medicines, and also to place them in the very best position for a cure. Often a little timely care and nursing will save and restore an animal, which, if permitted to run with the stock, and take its chance, would unquestionably be lost. A sick animal as truly needs attention as a sick child. Not always will mere nursing restore a sick animal, but it always places it in the best possible condition to effect a cure, and without it the best medical treatment will often be fruitless.

Diet of Sick Animals

In general, when animals are seriously ill, they are without appetite, and will take little or no food—nature

thus indicating the propriety of abstinence. But in all cases the food given or allowed should be quite limited in quantity—one-half, one-third or fourth of the usual quantity, and only that which is nourishing, easily digested, and generally relaxing. With these general restrictions, the usual kinds of food may be permitted, except in the case of dogs, where *only stale bread and milk* should be allowed in urgent cases, and but little or no meat, and no salted or spiced food in any case. After the more urgent symptoms of disease have passed over, and the animal is recovering, we should be careful and not give full feed, as a relapse may thus easily be provoked, and prove very stubborn and dangerous.

At least half an hour or an hour should intervene after taking a dose of medicine before the animal should be fed as the system is more susceptible then than at any other time.

To evacuate the bowels—injections of water, soap and water, or salt and water are always allowable, and may often be used with great benefit. They are usually administered without difficulty, in no case injurious, and should one fail to produce an evacuation, another or more may be repeated, until the result is accomplished.

How to Feel the Pulse

In the horse, this is best done by placing the finger on the artery, where it passes over the lower jaw, about four inches below its angle. Place the forefinger on the side of the lower jaw at its angle, and trace the jaw along gently towards the mouth. Some four inches below the angle a notch will be found, in which the artery pases over the jaw, and the throbbing of the pulse will be readily felt. Some attention may be required as the pulse beats in health slowly, and often apparently indistinctly.

The pulse makes in the healthy horse from thirty-six to forty-two beats per minute; in spirited lighter horses the latter, and in heavy older horses the former. When the pulse reaches fifty to fifty-five, there is some degree of fever. Seventy-five will indicate a dangerous condition,

and few horses will long survive a pulse of one hundred. Care should be taken not to excite an animal before or while examining the pulse, as it may thus readily be increased ten or fifteen beats to the minute, and mislead as to the true condition.

In cattle the temple is the best place to feel the pulse and usually runs forty-five to fifty beats per minute.

In sheep and hogs the femoral artery which extends across the inside of the thigh is most easily felt. This should run seventy to eighty for both sheep and hogs.

In dogs the pulse may be felt by placing two fingers on the inner side of the knee. Dogs run from 90 to 100 per minute.

The heart usually beats four or five times to each breath the animal takes (when in condition of rest). There is also a variation in normal temperature according to the animal as follows:

Animal	Normal Respiration	Normal Temperature
Horse	8 to 10 per minute	100.4 to 100.8 F
Cattle	12 to 15 per minute	101.8 to 102 F
Sheep, Goats	12 to 20 per minute	103.6 to 104.4 F
Hogs	10 to 15 per minute	103.3 average F
Dogs	15 to 20 per minute	100.9 to 101.7 F

Hints for Practice

As this Veterinary Manual may fall into the hands of some who are not acquainted with its use, a few practical hints may be of service.

1st. Follow the directions.—Read and learn what the disease or condition is.—Then give the remedy *in the doses*, and *at the intervals directed*, as near as may be. Don't think you know more about the doses or *how much* to give, or how often to give it, than the man who originated the system and wrote the book, and whose rules and observations are the result of very large experience.

2d. Don't mix the Remedies. with other medicines. They won't act if you mix them up with other

things; or bring the patient under the influence of other drugs, however harmless you may suppose them to be. The sure way of safety and success, is to *trust* to the *Remedies alone*. You will not improve the case by resorting to other medicines or other measures. If the patient does not improve as rapidly as you desire, a little rest will do no harm, and the kindly reaction may come on later.

3d. Don't be in to great haste.—Medicines must have time to act and time to cure. In some cases, such as colics, neuralgias or nervous pains, the evidence of good action is prompt—almost immediately. In other slower, less pronounced, not so decided.

When you see the patient relieved.—*less pain,—more quiet,—more natural,—easier,* then you know that the remedy is *acting curatively,* and *don't interfere with it,* by giving new doses or other remedies or medicines. Simply *let the remedy act. Hurrying does not hurry the cure.* When a good action has begun it will continue faster when quietly permitted to expend its action, than if doses are multiplied upon it. The time to repeat the dose is when the action of the former has ceased or begun to decline. The patient is in more danger from your doing too much, than too little, after a good action has been set up.

4th. Disease of the bones, joints and ligaments, only get well slowly. So of old chronic affections—such as "Spavin," "Founder," "Ringbone," "Wind galls," "Warts," or other blemishes. A new action has to be set up in the implicated part, often a process of absorption and of reformation of tissue, and *time* must be allowed for these changes, through which only a cure can be made. Sometimes a good reaction is only produced after some days or even weeks use of the remedy. Such is nature's way of cure and you cannot hasten it. So your true interest and true philosophy is, act *patiently, perseveringly,* if you would act *successfully.*

5th. The action of Humphreys' Remedies continues a long time.

PART I.

Diseases of Horses

CHAPTER I.

DISEASES OF THE SKIN and SUBJACENT TISSUE

Abscess—Ulcers—Fistulas

An abscess is a collection of matter. Any tumor softening, or in other words coming to a head, forms an abscess. They are usually the result of injuries, such as a blow or contusion, or may be occasioned by a thorn, nail or splinter entering the flesh. In the more severe cases these act in connection with a constitutional pre-disposition or peculiar state of the blood.

SYMPTOMS.—A hot and painful swelling; in the earlier stage, hard, and by degrees softening or fluctuating in the center, and gradually approaching the surface, attended with more or less heat and fever, according to its situation and nature.

Abscesses which penetrate deeply along the sheaths of muscles and tendons, or even to the bones are termed FISTULAS. Shallow abscesses are known as ulcers, and these may be mild, readily healing, and secreting a healthy, thick, cream-like pus; or ill-conditioned, unhealthy, secreting a thin sanious discolored matter, and healing with great difficulty. Such are the general characteristics of all abscesses, wherever located, and their situation and extent mark their relative importance and danger.

TREATMENT.—During the inflammatory stage or before softening, while there is merely a hard, more or less hot and painful tumor, we should endeavor to disperse it without its softening. To this end, give three times per

day, ten drops of A.A., and also bathe the tumor as often with HUMPHREYS' MARVEL WITCH HAZEL which will frequently disperse it.

But if the swelling increases and fluctuates, or a yellowish spot is observed in its center, denoting the presence of matter, it should be lanced at once, in the most depending portion, and the matter drawn off, and fifteen drops of the I.I., should be given morning and night to facilitate the healing. Apply the VETERINARY OIL to the cut or open sore with end of the finger, three times per day, to facilitate the healing.

For ULCERS or SORES, apply the VETERINARY OIL, as above.

In fistulas where the canal is long and crooked, or runs into cavities of pus, it may be laid open with the knife, so as to heal from the bottom, or better, the VETERINARY OIL may be injected daily, with a small syringe, or the OIL may be inclosed in a *gelatine capsule* and gently pressed down into the bottom of the cavity, after having pressed out the accumulated matter. The use of the capsule (which may be had for a trifle at the druggists, or from this Company), is the safest and most convenient.

Abscess of the Poll, Poll Evil

Is often from neglect a very formidable disease. It is generally the result of severe injury upon the top of the head, such as the chafing of the bridle or halter, pressure, or a blow against the manger or stall, or frequent hanging back against the headstall.

SYMPTOMS.—At first a tumor forms at the polls or junction of the head and neck. It soon becomes hot, tense and painful; the horse carries his head low; looks to one side; eats but little from the pain of chewing, especially if the food is hard. If the tumor is not dispersed, it comes to a head, either discharges externally, or the matter failing to come to the surface, sinks downward, burrowing along beneath the surface among tendons, ligaments and bones, forming deep and obstinate fistulous ulcers.

TREATMENT.—Before the tumor has softened, give the A.A., fifteen drops three times per day, keep the horse on low diet, and bathe the swelling frequently with HUMPHREYS' MARVEL WITCH HAZEL. This course will usually disperse the swelling or should it fail to do so will limit it to the smallest possible extent.

If the tumor has come to a head, is soft or fluctuating, lance it at once, evacuate the contents, and give fifteen drops of the I.I., morning and night, apply HUMPHREYS' VETERINARY OIL three times per day to the sore. For old neglected cases apply the VETERINARY OIL, and give I.I., daily.

Fistula of the Withers—Sweeny

This disease very much resembles Poll Evil in the textures involved and the difficulty in curing it. It begins with an inflammation of the connecting tissues of the spinous processes of the dorsal vertebræ and the ultimate formation of an abscess. Being confined by the fascia or ligamentous structures, the matter cannot find its way to the surface, but forms sinuses or pipes, and by the force of gravity, burrows down among the muscles which connect the shoulder with the trunk. Sometimes it consists of a cyst filled with a serum, and then is easy to cure. As the muscles of the withers are connected with all the movements of the neck as well as the back and legs, the disease rapidly increases, and the inflammation extends; the shoulder becomes lower, the ligaments, cartilage, and spinous process are involved, and extensive mischief ensues.

CAUSE.—A badly fitting saddle, and most commonly a side-saddle, which, pressing on the spinous processes of the vertebræ, produces first soreness and subsequent inflammation.

SYMPTOMS.—Swelling and tenderness either on the top of the withers or a little on one side of the spinal process at that point; and in a short time fluctuation under the finger. Should the skin have been much bruised, a cir-

cular portion sloughs out and leaves an unhealthy looking sore, from which there is a discharge, and on further examination with a probe we find a cyst from which there is only one outlet, or we find fistulous ducts ("pipes," in farriers' language) leading in various directions. In many more advanced cases we only discover a hard tumor on the withers, which will neither suppurate nor disappear by resolution, and to which, although coming under the head of Fistulous Withers, the term is evidently inappropriately applied.

TREATMENT.—First remove the cause by taking off and quite altering the bearing of the saddle. If the swelling is recent and does not fluctuate, thoroughly rub in the VETERINARY OIL, repeating the operation every day, giving a dose of B.B. also morning and night. If a cyst exists and fluctuation is perceptible, it must be opened at the most dependent portion, and the matter drawn off, and the part rubbed with the VETERINARY OIL, and a portion of it injected into the sack or opening every day. If long pipes or sinuses exist, they must also be opened and the VETERINARY OIL injected. Give also, morning and night, I.I. daily.

Dropsy

While dropsy is not a common disease in the horse it is sometimes met with; particularly in horses which are fed on the refuse from sugar factories and distilleries.

It may be caused from improper feeding, or may be only a symptom of some other disease, particularly diseases of the heart, lungs, liver and kidneys.

Dropsy is a morbid accumulation of watery fluid confined to certain parts of the body. The disease is divided into varieties corresponding to the respective localization of the accumulated water, as for instance, anasarca (water in the skin); ascites (water in the abdomen); hydrothorax (water in the chest).

SYMPTOMS.—In the first form (anasarca) it is first noticed on the lower parts of the body, as the legs, under

surface of the chest, etc. The skin is swollen and doughy to the touch and retains the impression of the fingers; but is neither painful nor of abnormally high temperature.

In ascites there is a gradual enlargement of the abdomen and when pressed upon, the fluid can be felt to flow from side to side and the part with the water gives a dull sound on being struck. Breathing is quicker and impeded and the appetite diminished, but there is no fever.

In hydrothorax the symptoms are much the same except that it takes place in the region of the chest instead of the abdomen.

TREATMENT.—It will generally be relieved by giving the H.H., in doses of fifteen drops three times per day for trifling cases, or ten drops every three hours for the more severe ones. After a free discharge of urine is established, giving the medicine three times per day will be sufficient.

Eczema

(See also Mange page 23)

In the horse, eczema represents practically all forms of skin disease except the parasitic and is seen in the following forms and regions.

1—A form seen in hot weather and variously known as herpes, lichen, summer or saddle mange, and heat pimples. This occurs under the harness where sweating is most profuse, at first as scabby pimples, after which the hair sticks together and falls, leaving scaly bare patches.

2—Then there is a form of scaly eczema which attacks the head, neck, shoulders, elbows, etc. This is a chronic form, with the production of branny scales with thickening of the skin accompanied by itching.

3—A pustular form which attacks chiefly the skin under the mane and tail. The skin is raw and weeping, while the hair mats together in masses and falls and there is a tendency to the chronic scaly form.

4—Eczema attacking the legs is known as mallenders and sallenders if on the back of the knee, or the front of the hock, while if above the heels, in the bend of the

pastern it is known as grease. This is characterized by heat, swelling and redness, followed by a vesiculated weeping surface with the formation of a greasy, offensive discharge, scabs and cracks in the skin, followed by loss of hair. Sometimes the irritant secretion gives rise to production of fungus wart-like granulations, known as "grapes" accompanied by great thickening of the skin and swelling of the limbs.

Eczema probably comes from both external and internal causes. Among the external causes are improper grooming and cleansing of the skin, exposure of the animal to constant rain and the use of irritant soap. Grease may be caused by clipping the hair about the fetlock in cold weather and cleaning before the hair has entirely dried.

Among the internal causes are hereditary disposition, improper diet and use of drugs.

TREATMENT.—First clean the sores, removing all dirt, scabs, etc. For this purpose olive oil is better than water as soap and water are apt to cause further irritation. (If about the tail or mane, clip the hair around the sores). Apply Zinc Ointment at night and morning. Give A.A. three time per day for two days, then I.I. instead of the A.A.

When in the form of "Grease" on the fetlocks, remove the hair from the sores and cleanse them well. In bad cases the application of a bran poultice cleanses them beautifully. Keep the legs as dry as possible. Feed with relaxing or green food, bran mashes, and less stimulating food, especially in the early stage, and give fifteen drops of A.A. Keep the legs as free from dirt as possible. If the horse is not worked let him have exercise daily, and each night and morning after the leg is cleaned apply Zinc Ointment.

Hidebound

This condition is not a disease of itself, but a mere symptom of some other disease, most frequently of the stomach; such as a disordered stomach; poor food, or

long exposure to rough, stormy weather. It not unfrequently exists in connection with Glanders, Grease, Founder or old disease of the lungs.

Symptoms.—It manifests itself by the hair looking rough and unthrifty, without its natural smoothness and gloss; and the skin feels hard, firm and fixed to the flesh.

We can most successfully treat it by ascertaining and removing the cause upon which it depends. But in the absence of any special indication, we may give with the best success a dose of fifteen drops of J.K., each morning, and the same of I.I., each night. A few days treatment will generally produce a most marked improvement.

Mange

(See also Eczema page 21)

Mange is a disease of the skin which has much the same appearance as eczema but is caused by parasites while eczema is not.

There are three forms of mange in the horse.

1—Sarcoptic mange caused by a burrowing mite which feeds and propagates in the lower layers of the skin. This form is usually found on the head, neck, shoulders and outer parts of the body.

2—Dermatodecic mange caused by sucking mites which live on the outer layers of the skin and suck up serum and lymph. This form is usually found on the inside of the thighs, root of the mane and tail, sheat, etc.

3—Symbiotic mange caused by scale eating mites which live and feed on the surface of the skin. This form is usually found on the feet and pasterns.

The last two varieties of mites can be seen by the naked eye but better by a magnifying glass. The first variety can be seen only by a glass and that with difficulty due to their burrowing under the skin.

One should be careful to distinguish mange from eczema as the origin and treatment of the two diseases are quite

different, although the eruption looks much the same in each case.

1—Eczema is much more common in the horse than mange.

2—In mange there is a more definite boundary to the patches than in eczema.

3—In mange the itching is much more intense.

4—The actual discovery of the parasites by the aid of the magnifying glass is of course the final test.

TREATMENT.—Consists of clipping the hair around the infected patches, then cleaning them with oil or glycerine containing five per cent of creolin or lysol. Then apply a thick lather of green soap and leave on for twenty-four hours. This is to soften the scabs and prepare the skin for the actual remedy. For this purpose sulphur ointment (equal parts of sulphur and lard) is an old standby or a three per cent solution of creolin or lysol is good. The remedy must be thoroughly rubbed with a brush into the infected parts and when rubbed off by the animal reapplied for a period of a week. Then wash off and repeat the treatment two or three times.

In addition to this the horse should be removed from the other animals and all stalls, blankets, etc., that he has used should be cleaned by boiling water and a five per cent solution of creolin and lysol. This is necessary in order to destroy the mites which remain on such articles and which might infect the other animals or reinfect the horse.

Swelled Legs

This affection is of frequent occurence in horses, and is more especially observed in coarse and badly groomed animals. The hind legs are most subject to it, although it frequently extends to the fore legs. Sometimes from metastasis of disease from other parts, the legs swell to an enormous degree, and it is attended with some degree of heat, tenderness, and peculiar lameness. The pulse is quickened, and there is evident fever. In such cases there

is some inflammation of the cellular tissue, and an effusion of fluid forming the swelling. In these cases when there is heat and tenderness, a few doses of fifteen drops each of A. A., for FEVER, will soon relieve the lameness and swelling. If the legs are swelled without being lame or painful, the I.I., should be given morning and night, with careful grooming and exercise, this will soon reduce the swelling. If the swelling is accompanied with SCANTY URINATION, the H.H., given three times per day is the proper remedy for the difficulty. Sometimes swelled legs are merely the result of a change of feed, and hence often occur in spring and fall, or when horses are taken from pasture and confined in close stables. Consult also GREASE or SCRATCHES.

Swelling of the Teats

Sometimes from cold or injury, the teats in mares are subject to inflammatory swelling. A few doses, ten drops each, of A. A., for FEVER, will relieve, and if the parts seem quite tender, bathe them with HUMPHREYS' MARVEL WITCH HAZEL or apply the VETERINARY OIL.

Ringworm

Ringworm is a disease caused by a vegetable parasite, or fungus, which lives on hair follicles and the hair itself.

SYMPTOMS.—It makes its appearance most frequently on the seat of the saddle, on the croup or flanks and sometimes on the head. The spots range in size from a dime to a half dollar and usually form a fairly regular circle. The hair has fallen out or is broken off and there is a scaling of the skin inside the circle. The surrounding hair can easily be pulled out. Itching is generally absent.

TREATMENT.—Same as for mange. (See Mange page 23).

Lice

Horses taken up from a straw yard, with long, shaggy coats, in poor condition, are sometimes found infested with lice.

CAUSE.—Contagion.

SYMPTOMS.—The animal is seen continually biting his sides and quarters, rubs himself against walls and posts, or anything within his reach, denuding the skin of hair in patches and making it bleed. On close examination we have no difficulty in discovering the lice in bare patches.

TREATMENT.—The horse should be removed from the other animals. The stalls, blankets, etc., that he has used should be thoroughly cleaned by boiling water and a five per cent solution of creolin or lysol, to destroy the lice which will cling to stalls, blankets, etc.

The horse should be washed with green soap and water and kerosene (Coal Oil) should be applied night and morning for two days and then removed by soap and water. This must be done three times at intervals of a week, in order to kill the new generations of lice which hatch from the eggs in about six days.

Tubercles

These small, sluggish swellings are caused by friction, contusion, cold, stings of insects, internal disease, etc.

TREATMENT.—If they are the result of external violence, HUMPHREYS' MARVEL WITCH HAZEL OR VETERINARY OIL, applied externally, is beneficial. The I. I., may be given with advantage morning and night.

Sponge

This term is given to a round, spongy excresence on the knee, generally caused by some external injury. It is at first a hot, painful swelling; then becomes a cold, hard, indolent tumor. It sometimes occasions considerable itching and emits perulent matter.

TREATMENT.—If sponge arises from some injury, the VETERINARY OIL should be well rubbed in, two or three times a day; or applied morning and night; at the same time, also administer I. I., morning and night.

Sweating

Sometimes on very moderate exercise, horses sweat to excess. It is often the result of weakness, poor food or

some internal condition. Give J.K., a few times, in doses of fifteen drops, morning and night.

Tumors, Swellings

Any unusual or morbid growth or enlargement may be termed a tumor, and when one is found upon any part of an animal, care should be taken to ascertain, if possible, its nature and cause. They are variously named, according to their locality and the nature of their contents.

Sometimes they are globular or conical, or again flattened, or again pedunculated (having a neck). Some are quite firm and hard, others spongy, and others contain fluid.

Encysted Tumors (so called because the enlargement is closed in a sack) are frequent, more or less round, movable beneath the skin, painless, and sometimes attain to a considerable size. They are the result of some internal cause not easily defined.

TREATMENT.—In all cases where a tumor or swelling is hot or painful, give A.A., every two, four or six hours, in doses of fifteen drops, according to the urgency of the case. Keep the animals on low diet and thus seek to disperse it. If caused by external pressure or injury, annoint the part frequently with VETERINARY OIL. If the tumor, notwithstanding the treatment, has softened, grows whitish at some point, painful and smaller, open it, then treat it as an ulcer, giving I.I., morning and night.

In case of *cold tumors* or hot tumors, after the heat has been reduced, simply give I.I., at night, or noon and night, and the J.K., in the morning, in doses of fifteen drops, until the tumor is dispersed or the condition favoring the production is destroyed. Encysted and fatty tumors will generally have to be taken out by the knife and the opening annointed with VETERINARY OIL and again neatly brought together to prevent a scar.

Warts

Warts are so well known as to require no description. Certain horses and young animals are most subject to them. They vary in size and appearance, are smooth or shaggy, pedunculated or have a large base and some are soft, moist or spongy. They sometimes arise after chafing or an injury, but depend essentially upon an internal cause.

TREATMENT.—Give I.I. in doses of fifteen drops, every two or three days for a few weeks, this should cause their entire disappearance. Apply also daily the VETERINARY OIL, scraping off the rough outside of the wart with the thumb nail before or while applying the OIL.

CHAPTER II.—PART I.

MECHANICAL INJURIES AND WOUNDS

The treatment of injuries and wounds is a branch of Veterinary Surgery of the utmost importance to the owners of horses, for accidents are of every day occurrence. We shall, however, not be able to devote so much space to the subject as some would deem desirable.

Flesh Wounds may be classified as *Contused Wounds,* when there is an injury inflicted on the surface of the body by mechanical violence without rending the skin; *Incised Wounds*, when such an injury is inflicted by a clean cutting instrument; *Lacerated* or *Jagged Wounds,* when the parts are torn and the lips of the wound are irregular; and *Punctured Wounds*, when the injury is deep rather than broad, and the effect of piercing as by a stab.

Contused Wounds

DEFINITION.—Wounds are said to be "contused" when the skin, although bruised, is not cut through or broken; they are followed by the usual symptoms of inflammation, namely, redness, swelling, heat and pain.

CAUSES.—These can be best understood by one or two illustrative examples. A horse gets the collar chain around his heels at night when he becomes fast, and, in struggling to free himself, he bruises and excoriates the hollow of the pastern. Next morning he is found very lame, with swelling and great tenderness of the parts, but there is no rent in the skin. He has what is called "Contused Wound." Or, another cause of injury commonly occurs in cavalry stables, where the horses are separated from each other by an iron bar, over which one of them manages to get one of his hind legs. In struggling to get back, he bruises the inside of his thighs, and probably his belly as well. Next day we find him

with his leg considerably swollen, lame, and tender on pressure, from "Contused Wounds." Other causes are kicks from horses, blows from bad-tempered grooms, and falling on hard ground.

TREATMENT.—Apply the VETERINARY OIL to the part two or three times per day, and give the first day or two, the A.A., three times per day, after which, an occasional dose of I.I.

Incised Wounds

DEFINITION.—Incised wounds are those in which a clean cut is made through the integuments or parts underneath, merely dividing textures without lacerating them, and are generally caused by some sharp instrument.

TREATMENT.—In such cases it is necessary to bring the lips of the wound together, and retain them so by what are called sutures, the best of which is an ordinary pin passed through the skin a quarter of an inch from the edges of the wound, whose lips are then kept close together by the further addition of a small piece of tow passed over, under and around the pin, forming a figure thus **$**, after which the point of the pin may be cut off with a pair of scissors. These pins, or, as they are called, "twisted sutures," may be placed one inch apart from each other. Most Veterinary Surgeons use what is called the "interrupted suture," as follows: A curved needle, armed with a strong thread, well waxed, is passed through the skin on each side of the wound, when the ends of the thread are drawn together and tied in a common knot. As many of these stitches are to be made as the length of the wound renders necessary, but they should be about three-quarters of an inch apart. These sutures, as a general rule, should be allowed to remain as long as they will; but should an effusion of serum or matter take place in the interior of the wound, the lower or most dependent one should be taken out, and the fluid allowed to escape; and then, but not before, warm applications may be applied. Exceptional cases, however, do occur when, from the

extent of the injury, considerable swelling takes place about the third day, and constitutional disturbance intervenes. In these cases the sutures may be removed; but in the majority, the swelling must be looked upon as a natural consequence attendant on the formation of lymph, which may be seen oozing from the lips of the wound, and which is necessary to glue them together, till the small vessels pass from side to side and form a permanent bond of union. Always dress the wound and keep the edges of the opening moist with the VETERINARY OIL, applying it from day to day, to prevent inflammation, suppuration and to promote healing by "first intention." The interrupted or thread suture is preferable for wounds about the head, as the horse would probably tear out the pin by rubbing it against the rack or manger. Previous to applying sutures, we should remove all foreign bodies and clots of blood from the wound, and oil every part well with the VETERINARY OIL, and give A.A. four times a day.

Hemorrhage, although causing great alarm to the uninitiated in veterinary science, is generally a matter of very little consequence, except a large artery is divided, as the bleeding will soon stop without our assistance. But should the blood come in jets, be of a bright scarlet color, and not stop in a reasonable time, we should either sieze the open mouth of the vessel with forceps and pass a ligature around it or apply a compress of tow and a bandage. Cold water dashed on the part, or HUMPHREYS' MARVEL WITCH HAZEL will frequently have the desired effect.

Lacerated or Jagged Wounds

DEFINITION.—By these are meant that description of injury to the soft parts where the skin and subtextures, instead of being simply divided, are torn asunder and present a jagged and irregular appearance, and are often much bruised.

CAUSES.—They are caused by mechanical injuries, such

as hooks and nails in stables, or by carriage poles or shafts running into a horse.

TREATMENT.—Our first object is to remove all foreign bodies from the wound, and to cut off all lacerated portions, whether of skin, muscle or tendon, which cannot be retained in their original position. Then all grit or sand must be washed away by dashing cold water on the wound, should there be much hemorrhage; or bathing it with warm water, should the bleeding be inconsiderable. Having thus produced a tolerably even and clean wound, and removed those parts which we know would be removed by sloughing, we assist nature by sewing up such portions of skin and muscle as are not too much injured to preclude the hope of their growing in their original position, although we may abandon all hopes of the wound uniting by the first intention. This we accomplish by thread sutures, as in the case of incised wounds, but with this difference, that we do not bring the lips of the wound together, but at once have recourse to hot applications and bandages wherever they can be applied. The use of the latter is to preserve the lacerated parts in their original position, to exclude air, and to prevent the water washing away the lymph, which is necessary for the filling up of the wound; consequently the bandage should not be removed for a few days, except that the swelling renders it actually necessary to do so. The warm application reduces the tension in the part, favors circulation and the exudation of lymph, and by its soothing effects prevents that constitutional disturbance which is so much to be dreaded in this class of wounds. In about a week the inflammation will have partially subsided and suppuration will most probably have taken place, when we remove the bandage and discontinue the hot application, merely letting a little water run over the wound to remove superfluous matter. It is undesirable to use a sponge, because it would remove the lymph at the same time and expose the small vessels to the atmosphere, which are busily engaged in repairing

the injury, which, acting on them as an irritant, causes them to secrete exuberant and unhealthy granulations called "proud flesh." For the same reason, unless the matter is very plentiful and has a bad smell, it is better not to apply even water, or in any way remove the lymph.

The best possible dressing for all such injuries is HUMPHREYS' VETERINARY OIL, which should be applied to all the raw or cut surface before being sewed or bound up, and then kept applied to the raw surface, both to prevent inflammation and to promote healing, and to hasten the process of cicatrisation, or the skinning over of the wound. Apply the VETERINARY OIL twice per day. Should the granulations rise above the surrounding skin, or "proud flesh" appear, VETERINARY OIL is still the best application, and will soon reduce the unhealthy growth and induce a natural healing.

Punctured Wounds

DEFINITION.—These have small openings externally, but are usually deeper and of a much more serious nature than others. Because from their depth they are liable to implicate blood-vessels, nerves, viscera, and other deep-seated parts of importance. And because the parts which they traverse are stretched and torn, and consequently disposed to inflame and suppurate. And because matter, when formed, has no free exit, and is liable to burrow extensively. Finally, because foreign bodies may be carried into great depths without being suspected, and create long continued irritation, and because they are most liable to be followed by Tetanus.

CAUSES.—These wounds are caused by any sharp pointed instrument, such as a pitch-fork, nail or scissors, or by stabs or thorns, bayonet or sabre thrusts.

TREATMENT.—Our first object is to remove all foreign bodies, such as splinters, thorns, or balls, should it be a gun shot wound. Should the puncture not be in the neighborhood of a joint, or penetrating a tendon or bursal cavity, it is then generally advisable to enlarge the orifice of the wound by passing a sharp knife to the bottom of it,

and convert the punctured into an incised wound, when it must be treated by injecting VETERINARY OIL in all cases where it is possible to do so, and in all cases by keeping the OIL applied to the open wound or sore until it is entirely healed. Give also A.A. morning, noon and night; after which give I.I. morning and evening.

When a tendon is punctured and the thecal fluid escapes, the nature of the injury in no way differs from an open joint in the mode of treatment to be pursued, which will be found fully explained in the Section on open joint, page 44.

Laceration of the Tongue

This wound may be caused by a high port bit, by the forcible and careless administration of balls and drinks; by the end of a halter being passed over the tongue to guide the horse instead of a bit; by a fall when the tongue is between the incisors; by rough, long or irregular teeth; by thorns, sharp bones, needles, etc.

SYMPTOMS.—Slavering from the mouth and inability to feed will lead to an investigation of the mouth, when the laceration can be plainly seen.

TREATMENT.—Foreign bodies should be removed. The horse should be fed on green food, if it can be procured, and no bit put in the mouth for some days. The best application is the VETERINARY OIL applied daily. If ulcers form, I.I. should be administered also.

Saddle Galls—Warbles—Sitfast—Serous Cyst

DEFINITION.—When a saddle or collar has galled the skin of the back and shoulders, effusion takes place into the tissue underneath. If a small circumscribed tumor is the result, we call it a "Warble"; or, if a large flat swelling with abrasion of the skin be found, the name of "Saddle Gall" or "Harness Gall" is given to it.

CAUSES.—These disorders often arise from a ill-fitting saddle or collar, also by removing the saddle too soon. After a march soldiers are not allowed to strip their horses until they cool under the saddle.

TREATMENT.—Apply the VETERINARY OIL morning and night, and give I.I. as often, until the healing begins; then give J.K. morning and noon, and I.I. at night.

Staking

In leaping fences or gates, the belly of the horse is sometimes impaled and wounded. The extent of the injury is not always apparent outwardly, and can only be ascertained by careful examination with the finger. There may be no wound in the skin, but the muscle underneath may be injured and torn, and the bowel may enter the part torn; or the stake may pierce the abdomen and a portion of the bowel may protrude outwardly.

TREATMENT.—In the former case, a well fitting pad must be made and bandaged on; the bandages or pad being well oiled with VETERINARY OIL.

In the latter case, the horse must be kept quite still, and treated where he is. The protruding bowel must be gently and carefully washed from all blood, dust and grit with warm water, then oiled and replaced by very gentle pressure. The lips of the wound must then be oiled and drawn together and kept in place with pins. A pad saturated with the VETERINARY OIL should then be placed on the wound and kept in place by a bandage around the body. If the bowel itself is wounded, it must be stitched with catgut ligatures, and then replaced. If this is impracticable at the time, a pad and bandage should be placed on injured part until surgical aid can be obtained.

As there is danger of inflammation, A.A. should be given at two-hour intervals, and also a dose of I.I. each day. The horse should be kept very quiet and fed sparingly on soft food.

Capped Elbow

This is a swelling formed at the point of the elbow, consisting of an infiltration of bloody serum, and thickened skin. It may be the result of a blow, but is most generally caused by the horse in so lying that the calks of the shoe press upon the elbow joint. In some cases, inflammatory action sets in, and the tumor softens and is discharged, or if the pressure is continued, the swelling becomes hard and firm.

TREATMENT.—When the injury is recent, apply hot water three times per day, and afterwards apply the VETERINARY OIL. Alter the shoe by removing the calks and smoothing the shoe, as far as possible, to prevent any further irritation. Should it have become soft and matter formed it should be treated as an abscess.

Capped Hock

This form of injury most frequently results from kicking or some similar violence, and manifests itself either as a swelling at the point of the hock, which consists of an effusion of bloody serum and thickened skin; or the swelling bulges out on each side of the hock, making the enlargement more prominent at the sides. This is found to consist of an enlargement of the bursa or small bags, which contain the lubricating fluid for the part, and over which the sinews glide.

TREATMENT.—Give ten drops of B.B., three times per day. Wash the part with hot water morning and night, applying the VETERINARY OIL afterwards as for capped elbow. After the heat and irritation are reduced, careful hand-rubbing and the use of I.I., at night will do much to disperse the enlargement of the bursa.

Curb

At the back of the hock, three or four inches below its point, an enlargement or swelling arises which has received the name of *curb*. It is a strain of the ring-like ligament which binds the tendons in their place, or of the sheath itself. It comes on in consequence of a violent strain of the flexor tendons, or from a blow, kick, or contusion upon the part. It is most likely to occur in cow-hocked horses, where the hocks are turned inward, and the legs form a considerable angle outward, as in such cases the angular ligament must be continually on the stretch in order to confine the tendon.

When it first occurs, the swelling may not be great but is attended with warmth, pain and lameness, the leg being moved with caution and awkwardly.

TREATMENT.—In recent cases, frequent bathing of the part with the HUMPHREYS' MARVEL WITCH HAZEL diluted one half water, allowing the horse to rest, and give A.A. at first, then B.B., three times per day. The application of HUMPHREYS' VETERINARY OIL, morning and night will be better after the heat and swelling have mostly subsided. Rest is absolutely essential. If prematurely put to hard labor it is very likely to return again. If the curb is permitted to run its course, the acute stage will pass off leaving a hard, cold tumor, which may materially interfere with the motion of the joint. All old cases require B.B., once or twice daily, for some weeks.

Docking

By docking the tail of a horse, his shape and external appearance are sometimes improved, yet the operation is not without its consequences, such as inflammation, nervous irritation, fistulous ulcers, tetanous, etc. It is hoped that the time is not distant when this barbarous and senseless custom will be abolished, and the stern hand of the law laid upon every man who thus multilates one of God's creatures. Yet if the senseless operation is done, dress the wound with HUMPHREYS' VETERINARY OIL, which keep applied to the wound. Give first fifteen drops of A.A., and after a few hours, the same of B.B., which may be repeated from time to time to relieve the soreness and inflammation.

Fractures

Fractures of the bones of the horse occasionally occur in consequence of some severe blow, contusion, fall, or other injury. They are discoverable from the *difference in shape, swelling, lameness of the part,* and especially by the "CREPITUS," or grating sound, which occurs from moving the two fractured ends of bone together. In all doubtful cases, this crepitation is the reliable criterion. In the more palpable cases, the distortion, loss of the use of the part, and extensive swelling, remove all doubt.

Among the most common are fractures of the ribs, forming a swelling over the place, which is very sensitive to

pressure. Of the pelvis, rendering one hip lower than the other. Of the leg, rendering movement and use of the limb impossible, the point below the fracture swinging about useless.

Fractures are *simple* where a single break occurs in one bone, *compound* when the surrounding parts are lacerated, and *comminuted* when bones are broken up or fractured in different directions.

The treatment of all fractures rest upon very simple principles. Bring the broken parts to their natural position, keeping them there until they unite, the more perfectly this is done, the more perfect will be the result. Unfortunately, from the weight of the animal, and often his intractability, this is not always easy or even possible. But, on the other hand, nature will eventually heal even the worst cases, requiring, it is true, a longer time, and leaving behind very sad traces of her faulty workmanship. So that in treating a fracture, all these elements should be taken into consideration.

Fracture of the ribs: Bathe the swelling with HUMPHREYS' MARVEL WITCH HAZEL, and the parts will soon unite.

Fracture of the haunch-bone cannot be reduced, but nature will ere long heal it, though with some distortion, one hip will be lower than the other.

Fractures of the leg, from the weight of the animal, are extremely difficult to manage. It can only be done by suspending the animal by stout canvas passing under the belly and attached to rollers on either side and by means of pulleys raising him up so that the feet just touch the ground, the canvas being supplied with heavy bands, before and behind, to keep the body securely fixed in the canvas. The fractured ends of the limb should then be carefully adjusted and the limb wound well with a roller-bandage, then a pair of iron splints, grooved so as to fit the limb, and well wadded with tow; the splint that is behind two or three inches longer than the foot, should be securely bound on. The whole internal bandage should be bathed with HUMPHREYS' MARVEL WITCH HAZEL and kept wet

with it, from time to time, for a week. This will subdue inflammation and hasten the union of the parts. After eight days, the splints should be removed and the limb examined, and again replaced, to remain five or six weeks, at the end of which time the splint may be removed and a simple bandage and lighter splint retained until the cure is perfected in some six weeks longer, when the animal may be trusted to use his limb. If the ends are in proper apposition and maintained there, the union will be perfect, with but little swelling or deformity.

The general treatment of all fractures is to place the parts in apposition, keep them there by proper splints and bandage, and keep the place wet with HUMPHREYS' MARVEL WITCH HAZEL until the heat and swelling have subsided. Give also a dose of A.A., every two hours, for the first three days, to reduce the heat and fever; then alternate the B.B. with A.A. a dose every three or four hours during the day, to promote reunion.

Sprains or Strains and Dislocations

Sprains of various joints or parts occur which are more or less grave or serious, depending upon the extent of injury or the joint involved. If a bone is displaced it is termed a dislocation. The joint becomes painful, swelling soon ensues, and on comparing the joint with its fellow, we perceive the distortion; the limb is longer or shorter, and the animal moves it with great difficulty or not at all. If the bone is not moved from its position, but the ligaments are merely injured, or torn, or joints otherwise bruised, it is termed a sprain. The swelling in this case is often as severe and even more so than in case of actual dislocation. Yet the accident is not so serious, because in cases of horses and cattle, a dislocation is not always curable, and if the joint be replaced the danger of new dislocation is far more imminent than though it had never occured.

CAUSES.—Sprains and dislocations occur from false steps, slipping, leaping across ditches, sudden springing, violent effort in drawing a load, or sudden turning, or from falls, blows, kicks, contusions, etc.

TREATMENT.—In all such cases the indications are simple, yet the execution of them is sometimes very difficult. For sprains, bathe the parts with HUMPHREYS' MARVEL WITCH HAZEL, to keep down the swelling and inflammation, renewing the application from time to time at intervals of two, four, or six hours, according to the urgency of the case, and give six doses of A.A. three hours apart, then B.B. morning, noon and night.

Sprains of the Fet-Lock.—A sprain of this joint sometimes occurs, manifested by heat, swelling, and lameness more or less decided, and especially manifested when the horse is moving on uneven ground. When recent, bathe the part with HUMPHREYS' MARVEL WITCH HAZEL, and saturate a bandage with it, wrap it up, moistening it from time to time, and giving B.B., two or three times per day, fifteen drops at a dose. The pain and lameness will gradually abate.

Luxation of the Patella, or Stifle.—Under the influence of a severe blow, a sudden leap or strain, the patella, or knee-pan is sometimes displaced. The animal holds his leg stiff and extended, cannot rest on it, and when obliged to walk, draws it along. This displacement of the patella is called being STIFLED. The displacement can be reduced by the aid of sufficient help, and placing a side-line with a hopple on the pastern of the affected limb, and drawing the hind leg forward, the surgeon will then, with both hands, bring the bone to its place.

Often the reduction is effected of itself if the horse makes the slightest effort. The part should be bathed in HUMPHREYS' MARVEL WITCH HAZEL, as the ligaments are always injured; give fifteen drops of B.B. three times a day.

Injuries of the stifle, bruises, strains, etc., often occur, and should be treated by bathing the part with HUMPHREYS' MARVEL WITCH HAZEL, and giving the animal the above Remedy for injuries.

Sprain of the Psoas Muscles.—This occurs from drawing heavy loads on soft ground, or from horses' hind legs slipping back on ice, or from jumping a bank.

SYMPTOMS.—Difficulty in bringing up the hind legs when made to move, and sometimes inability to stand. It may be mistaken for spinal injury, but the difference is as follows: When the spine is injured, complete

paralysis takes place, whereas in Sprain of the Psoas Muscles the animal is able to kick and to extend the leg with great force. Examination *per rectum* will leave no doubt as to the nature of the injury, for pain on pressure, and swelling of the muscles, will be evident.

TREATMENT.—Give B.B., morning and night.

Sprains of the Muscles of the Haunch.—The gluteal muscles are sometimes sprained by violent exertion. The injury will be followed by effusion, swelling, and stiffness of the quarters, and afterwards by a gradual wasting of the muscles, which can be perceived by standing behind the animal and comparing the quarters.

TREATMENT.—Warm applications, A.A., and, after the inflammation has somewhat subsided, the B.B. four times per day.

Hip Joint Lameness.—This lameness may be produced by a sprain of the round ligaments, or gluteus externus muscle; but it more frequently arises from a sprain of the tendon of the gluteus maximus at its insertion into the trochanter major.

SYMPTOMS.—A dragging and rotary motion of the leg, pain on pressure, and a swelling which fills up the natural furrow, so well defined in well bred horses, formed by the semi-membranosus and gluteus externus.

TREATMENT.—This is the same as for Sprain of the Muscles of the Haunch.

Sprain of the Stifle Joint.—This is not very common, but when it does occur it may be easily recognized by the swelling, which, being superficial, can be easily felt, and by the pain caused by pressure. The action is also peculiar, the animal is unwilling to advance the hind leg, and drags it after him in trotting.

TREATMENT.—Warm applications frequently applied, and HUMPHREYS' MARVEL WITCH HAZEL morning and evening. As soon as the inflammation subsides the warm application must be discontinued, and a dose of B.B. given three times per day.

Sprain of the Hock.—The tendons and ligaments of this joint are all liable to be sprained in leaping and galloping through heavy ground. The tendons of the gastrocnemii internus, or those which retain the latter

in its place, sometimes become lacerated, and allow the cap formed by the gastrocnemii tendon to slip off the os calcis to the outside. In such an accident we cannot replace the tendon, but with rest and warm applications the animal may become fit for road-work.

The tendon of the flexor pedis perforans, which passes down the back of the hock, is occasionally sprained, and the sprain is followed by a thickening, and sometimes ossification of the tendon. The extensor pedis at the front of the hock may also be sprained, and this occurs just where the tendon passes under the inferior annular ligaments, and, being accompanied by distension of the bursa, may be mistaken for sprain.

The ligaments connecting the bones of the hock may suffer from an ordinary sprain, which, if discovered and properly treated, may be easily cured. But, unfortunately, the sprain is seldom discovered until the inflammation has wrought an important pathological change in the tarsal ligaments, whereby their structure loses its elasticity and becomes converted into a cartilaginous or bony substance. If this takes place in the inner part of the hock, we call the disease Spavin; but if on the posterior part we call it Curb. These are usually classed as diseases of the bone, but they more properly belong to this category, as they are an effect of long continued and neglected Sprain.

Give fifteen drops of B.B., three times per day.

Cutting, Brushing, Speedy-Cut, Over-Reach and Tread.

These are names given to bruises caused by one foot striking against another foot or leg.

Cutting or Brushing is caused by a foot striking the opposite fet-lock or cannon bone. It may occur before or behind; usually behind. It arises from defective structure of the legs, or from wasting of the legs in horses badly fed, so that they are brought abnormally near to each other.

Speedy-Cut.—The inside of one or both feet usually strikes the fet-lock joint of the opposite foot in passing it; but sometimes the cannon bone is struck just below the

knee; the bruise thus caused is called "Speedy-cut." It occurs during fast action, generally in horses with badly shaped legs. It is more dangerous than common cutting, because the pain is more severe and the shock to the system greater, so much so that sometimes the horse falls as if he were shot. Examination may discover a small bare place, partially concealed by adjacent hair, or a contusion, or an abrasion of the skin, or a scab on the inside of the cannon-bone. In bad cases the periosteum may be swollen and the bone itself enlarged.

TREATMENT.—This should be the same as for common cutting; but in all probability the only effectual remedy will be the construction of a speedy-cut boot, with a pad on the inside of the leg reaching from the knee to the fetlock, kept in position by buckles, and resting on the fetlock joint.

Treads and Over-Reaches.—These are names given to a wound between hair and hoof, inflicted either on the fore coronary substance by the shoe of the hind foot, or on the hind leg by another horse treading on it. Cart horses may inflict the injury on themselves with the calk of the shoe. These wounds are sometimes difficult to heal in consequence of the difference in organization of the parts injured, the exterior being highly vascular, but the interior cartilaginous.

TREATMENT.—Every portion of detached *horn, hair* or *skin* must be removed and the wound cleansed and dressed with the VETERINARY OIL placed on soft tow and bound up with broad tape. On the third and every subsequent day the dressing may be removed, but warm applications and poultices must be avoided. In cases of neglect or ill-treatment the suppurative process may have become established, and the warm applications may be necessary. If neglected the disease may end in Quittor.

In all cases of INJURIES or BRUISES, give A.A., and B.B. in alternation, two doses of each per day.

Broken Knee

This is a very vague term and may imply simply to a bruise, an abrasion of the skin, or a division of the tendons or of the capsule of the joints.

CAUSES.—Mechanical, such as falling or striking the knee against some hard and sharp substance.

SYMPTOMS.—There may be a simple bruise, without perforation of the skin, which, though not strictly speaking a broken knee, may be conveniently regarded as such; the knee is hot, swollen and painful, and sometimes hair is removed, or there may be abrasion of the skin, or it may be cut through, torn and jagged, and the underlying tissues more or less injured, the sheath of the tendon being exposed. If no glairy fluid issue at the time the joint is not open, and there is no cause for uneasiness about anything except the blemish which may remain, but which will generally be very slight if suitable treatment be adopted. A more serious form of Broken Knee is where it is bruised, cut or lacerated, and opened down to the joint, accompanied by the escape of clear synovial fluid, "joint oil," like the white of an egg.

TREATMENT.—The horse's head must be racked up for a few days or placed in cradles, to prevent his biting the wound. In broken knees where the skin and sub-textures are very much contused, and where such a quantity of sand has become imbedded that suppuration is a necessary consequence, it is well to put on a turnip or carrot poultice (but never bran, for it acts as an irritant). A leg of a woolen stocking should be drawn up over the knee and fastened around the leg at the lower part with a piece of tape, then, from above, the space in front of the knee can be filled with mashed turnip; the upper part of the stocking can then be fastened as the lower. The poultice may be repeated morning and evening for about three days, when suppuration will most probably be established, and no further treatment be necessary unless the granulations become too luxuriant, when the VETERINARY OIL may be applied, but not too freely or too often. In a few days the scab will fall off, and if cicatrisation has not taken place, the process may be hastened by washing the part three times a day with tepid water, or better, with the HUMPHREYS' MARVEL WITCH HAZEL. Give B.B.

Stings of Bees, Hornets, &c.

Sometimes where a horse has been tied near a swarm of bees, if sweaty or offensive to them, the swarm has been known to attack him, producing pain, inflammation, swelling, and sometimes death. Hornets are as bad or worse. Apply freely HUMPHREYS' MARVEL WITCH HAZEL. Give A.A., fifteen drops, and repeat it every hour.

CHAPTER III.—Part I.

DISEASES OF THE FEET AND LEGS

Lameness

The adage "No roof, no house," is matched by "No foot, no horse," because in either case the value of the thing is measured by the part that is wanting. So lameness or its absence is the essential part to be looked after in a horse. Fortunately it is not always necessary to decide in our practice the precise point, structure, tendon or muscle involved in order to cure, but it is always desirable. Hence the following points are suggested.

If the lameness has come on *suddenly* during a drive or work, it suggests some accident, or other very recent cause, such as *picking up a nail* or a *stone*, a *bruise of the sole*, an *over-reach*, or a *strain* of a *tendon or joint*. If it has come on *slowly* or *gradually*, it would suggest some more deep-seated or constitutional cause.

If it occurs of having been out, or worked in cold rains, or after work standing uncovered in a cold chill wind, it suggests *rheumatism* or rheumatic lameness, or *laminitis*, "founder of the feet."

An examination must always be made quietly. If the horse is excited you are liable to be put upon the wrong track. If the *fore feet* are affected the hind feet will be likely to be brought far forward in order to take the weight off the sore place. If one fore foot *points* or is advanced some inches beyond the other, it suggests some difficulty in the heel of that foot or back part of that limb; while, bending the knee and fetlock, and resting the foot or the toe without advancing it, suggests a disease of the shoulder or elbow. In all cases of lameness of *one foot*, that one will rest more lightly on the ground, and be raised more quickly than the other. In exercise when one limb is affected, that foot comes to the ground less heavily than the other, and the head and fore part of the body are elevated, when it comes down and drops again when the sound foot comes down.

With lameness *in both* fore feet the *step is short*, and the stroke on the ground weak, the shoulders stiff, head raised, and hind feet brought unnaturally forward. In lameness on *one side behind* the rising and falling of the hip on the affected side is more marked than on the sound side. When *both sides* behind are involved, the fore feet will be kept well back under the animal to relieve the weight. With these hints in mind the location of the trouble may be usually ascertained and the treatment by external applications facilitated. Consult also the special form of lameness or disease which the examination has indicated as the directions or hints given therein may be valuable as *sprain, rheumatism, bruises, corns, stifle, founder, spavin, splint, etc.*

TREATMENT.—In general, when the point of difficulty is known, and if recent, the place swollen, or heated, apply HUMPHREYS' MARVEL WITCH HAZEL diluted one-half with water, two or three, or more times per day. In severe cases, put on a compress wet with diluted MARVEL, which renew as often as it gets dry, and give A.A., if there is much heat or fever in the part, a dose say four times per day. When the heat has subsided, or if there is no special fever or heat apparent, give B.B. as often at first, and later or in more indolent or chronic cases a dose morning and night. Later, and especially if the lameness is worse on first morning, give I.I. in place of B.B., or alternate the one morning and the other night.

The VETERINARY OIL, may be used after the use of the MARVEL, or when there is local swelling, bruise, or any *chafing, cut, scratch*, or *ulceration* or for *bruised* or *broken hoof* or *corn*. Apply it daily.

Laminitis, Inflammation of the Feet or Founder

This is one of the most frequent diseases of the horse, and one in which the resources of my HOMEOPATHIC REMEDIES are very efficient. The sensible lamina or fleshy plates on the front and sides of the coffin-bone, are, like all other vascular structures, very liable to inflammation, particularly from violence or long continued action of the part. Hence, standing long in one position, as in sea-voyages; battering or bruising the feet in severe or long journeys; sudden changes from heat to cold, or from cold

to heat, acting directly on the feet; standing in snow or cold water after a journey, are the more common causes of this disease. It sometimes occurs as a mere transition of the disease from some other part, and occasionally from *excess of food or indigestible food*, or *food when heated.* Many cases of so-called FOUNDER are really only attacks of *Acute Rheumatism;* hence consult what is said on that disease, and compare the two chapters for a better understanding of the subject.

SYMPTOMS.—The disease generally begins with a shivering, shaking chill; the flanks heave; the breathing becomes quick and labored; the pulse full and frequent; the horse shifts his feet from one place to another; lies down and rises frequently, but does not paw the ground nor kick his belly; he will sometimes place his lips on the fevered feet, as if to tell where his pain is; he places his hind legs under him, as if to take the weight of his body from the fore-feet; he moans or groans from the severity of the pain and at last lies down, unable to stand upon the inflamed feet. The feet are intensely hot and painful. If one foot is taken up, he can scarcely stand upon the other and may tumble down. He does not like to get up from the ground, and is moved with difficulty from one place to another. If the disease be not arrested, matter may form inside the hoof, which even may be thrown off.

The disease may exist in a more chronic form, coming on by degrees, and eventually resulting in the ruin of the horse.

It is more common to see it in a milder form than the first mentioned presenting the following symptoms: The horse is feverish, out of spirits, refuses to eat, cannot raise his limbs without evincing pain, trails his feet along with difficulty; cannot readily be made to go forward, or backward scarcely at all. In the stable, horses bring the four feet near together, and there is no little difficulty in making them relinquish this attitude.

TREATMENT.—In the more severe cases, the shoes should be removed from the feet, and the hoof pared down until the horn yields to the pressure of the thumb. Give the horse rest, and allow him to lie down, wrap the hoofs in cloths soaked in water, and renew them from time to time.

If the disease is from the feet having been battered by long driving or riding, bathing them with HUMPHREYS' MARVEL WITCH HAZEL will be of great value. In some cases, a cold poultice, made of mashed turnips or carrots, is of excellent service.

The remedy is B.B., of which a dose may be given every three hours, in acute cases. In recent cases, when there is *fever, decided lameness* and *heat of the foot,* and indeed in almost every case, you may better begin with A.A., of which give a dose every two hours, and after three or four doses, alternate with B.B., as often as every two hours, and after the force of the disease has abated, the B.B., may be continued alone at increasing intervals, until entire restoration.

When the disease is clearly traceable to *over-feeding,* the B.B. and J.K., may be alternated from the first, every three or four hours, in doses of fifteen drops.

In case of chronic founder, the B.B. should be given, a dose of fifteen drops, each morning and night, and the treatment continued for some time. An occasional dose of J.K. will be useful as a constitutional intercurrent remedy, and may be given at noon, while the B.B. is given morning and night.

On the Formation of Joints

Joints are formed of bones which fit into each other by unequal surfaces, whose cavities and eminences mutually correspond. As the roughness of the bones would prevent their moving freely without friction, we find an intervening smooth elastic substance called cartilage, which not only obviates this inconvenience, but in a great measure takes off the jar that would otherwise ensue when the horse moves on hard ground. To render the motion still easier, we find the cartilage covered with a fine synovial membrane, secreting a fluid of an albuminous and oily character, which acts in the same capacity as oil to machinery, namely, to prevent friction.

Besides the membranous connection of bones which enter into the formation of joints, there are strong, flexible substances of a fibrous texture called ligaments, which are the chief bond of attachment, and support the lower joints; while others are further strengthened by muscles and tendons. Bursæ mucosæ are small closed sachs which

surround the tendons wherever there is friction; they are analogous in structure to the synovial membrane, and secrete a similar fluid.

Synovitis

DEFINITION.—Idiopathic or constitutional inflammation of the synovial membranes. The inflamed membranes never extend beyond a certain size, nor do they burst, nor do they te minate healthily without treatment, but remain in the same condition from year to year. The inflamed condition is most frequently observed at the hock, when it is called Bog-spavin and Thorough-pin. But it is also found affecting the knee and fet-lock, and in the latter case is sometimes confounded with Wind-galls, which are inflamed bursæ mucosæ.

CAUSES.—Rheumatic Fever; exposure to heat and cold; also friction from quick work on a hard road; sprains.

SYMPTOMS.—Lameness quickly succeeded by swelling of some joints, not of the surrounding fibrous texture, as in true Rheumatism; the swelling in this disease is in the synovial cavity, and the effusion is at first generally serous and unattended by the fever which ushers in the muscular or fibrous Rheumatism. As the inflammation proceeds, coagulable lymph may be thrown out and the joint be permanently enlarged, or, from adhesions, the horse be left with a stiff joint.

GIVE A.A., four times per day at first, then B.B., morning and night.

Ulceration of Articular Cartilage

The inflammation in the synovial membrane sometimes extends to the cartilage, covering the ends of the tibia or astragalus. In such cases there is a diminution of the synovial secretion, also ulceration and wearing away of the cartilage, and a polishing of the surface of the bone, which has been erroneously called a porcelaineous deposit. We have seen this ulceration of the cartilage, and even caries of the bone, in the navicular more commonly than

in the bones of the hock; but not a few cases of occult lameness in the hock may be attributed to it. Give B.B. two or three times per day.

Windgalls—Puffs

In the region of the joints, and wherever friction is likely to take place, we find the tendons supplied with little sacs *(bursæ mucosæ)* composed of membrane similar to the synovial, and secreting in health an oily fluid from their internal surface, in very small quantities; but when the tendons become strained, or increased action is set up in them from over-exertion, nature comes to the rescue by increasing the bursal secretion, and we then perceive a slight elastic tumor, called *Windgall* or *Puff*.

Causes.—Tendinous sprains or over-exertion of any kind, and long continued friction from quick work on hard roads. Low, marshy pastures seem to have a tendency sometimes to produce a dropsical effusion in and around the joints of young horses, very similar to the enlarged bursæ from hard work; but they soon yield to constitutional treatment.

Symptoms.—Soft, elastic, circumscribed swellings, at first about the size of a nut, but eventually becoming hard and much larger, which appear in the neighborhood of some of the joints, such as the knee, hock, or fet-lock. To the latter, however, the name is usually restricted, although equally applicable to the former; so that when we say that a horse has Windgalls, we mean that he has above, or on each side of, the fet-lock, or back sinew, one or more elastic tumors, usually unattended by lameness or any active inflammation. The seat of these bursal enlargements is either between the perforatus and perforans tendons, or between the latter and the suspensory ligament. There is, however, another fetlock Windgall found on the front of the joints, between it and the extensor tendon; and a similar swelling occurs at the supero-posterior part of the knee from the distension of the bursa, between the perforatus and perforans tendons.

Pathology.—These enlargements were formerly supposed to contain wind, and so obtained their absurd name; but, from what has been already stated, the reader will perceive that they consist in an increase of bursal fluid similar to joint oil, and in a majority of cases do no harm, but are rather to be considered as a beautiful provision of Nature to obviate the baneful effects of friction from over-exertion of the muscles and tendons. Morbid changes, however, do occasionally take place in the bursæ, either from inordinate increase of their contents setting up inflammation in their tissue, or from an extension of the inflammation to contiguous parts, in which not only the bursal sacs, but also the lining membrane of the tendinous sheath, participate, when we find the puffy swelling extending up the leg, above the ordinary seat of Windgall, and very tender on pressure. The effect of this inflammation on the bursæ mucosæ is to cause a thickening of the membrane and a total change in the contents of the sac; the fluid, instead of being a straw-color, becomes reddened from the effusion of blood, which, after death, we find clotted and of a dark color. Lymph also is occasionally effused, giving the tumor a firm, hard feel, which, from calcareous deposits, produces lameness.

I.I., given morning and night, often clears up these blemishes wonderfully.

Seedy Toe

This disorder, frequently a sequel to laminitis, often arises without any assignable cause. It can sometimes be attributed to the clip of the shoe pressing on a hoof predisposed to the disease from deficiency in its natural glutinous secretions, whereby the horn becomes dry and loses its cohesive property, and is unable to resist the pressure from the toe clip, which a healthy hoof would do with impunity. It may also be consequent on gravel or dirt working in at the edge of the sole.

Symptoms.—The horn at the toe (of the fore-feet of troop and riding horses, but frequently the hind feet of

cart horses) becomes "seedy," and crumbles away like so much saw-dust or the dry rot in wood; while at the junction between the wall and sole a fissure will be apparent, leading upward between the outer and inner crusts of the wall, sometimes extending up to the coronet, and in old cases laterally, so that there is some difficulty in finding a piece of horn sufficiently sound to hold a nail, and side clips become necessary in keeping the shoe on. Percussion on the wall of the hoof with a hammer will show to what extent the separation has taken place.

TREATMENT.—The whole of the crust, as far as it is separated from the horny laminæ underneath, must be cut away, and the foot bound up with tar, tow, and broad tape. VETERINARY OIL applied to the coronet will hasten the downward growth of the wall. Keep the horse standing in clay, daily anointing the hoof with VETERINARY OIL. Both means have been successfully tried. Give J.K. morning and night.

Navicular Joint Disease

This disease is far more frequent than is usually supposed, and many horses are ruined by it, the lameness being generally referred to the shoulder or to some other part not at all in fault.

Behind and beneath the lower pastern-bone in the heel of the horse, and behind and above the heel of the coffin-bone, is a small bone called the navicular, or shuttlebone. It is so placed as to strengthen the union between the lower pastern and coffin-bone, and to enable the flexor tendon which passes over it to be inserted into the bottom of the coffin-bone and to act with more advantage. It thus forms a kind of joint with that tendon. There is a great deal of weight thrown on this bone and from this navicular bone on the tendon, and there is considerable motion or play between them in the bending and extension of the pasterns.

It is easy to conceive that from sudden concussion or from rapid and over-strained motion, and at a time when, from rest and relaxation, the parts have not adapted

themselves to the violent motion required, there may be excessive play between the bone and tendon, and the delicate membrane which covers the bone or the cartilage of the bone, may become bruised, inflamed and injured, or destroyed, and that all the painful effects of an inflamed and open joint may result, and the horse be incurably lame. Numerous dissections have shown that this joint thus formed by the tendon and bone, has been the frequent and almost invariable seat of these obscure lamenesses. The membrane covering the cartilage becomes inflamed and ulcerated; the cartilage itself is ulcerated and eaten away, the bone has become carious, and bony adhesions have taken place between the navicular and pastern and coffin-bones, and this part of the foot has become completely disorganized and useless.

SYMPTOMS.—The degree of lameness is various; the horse may show lameness the first hundred steps, or the first mile or two, and then less or scarcely at all; he is inclined to "point" or keep the affected foot in advance of the other when standing; he may show lameness on stone or pavement and not on turf or ground; if both feet are badly affected, the horse favors his heels, has short action, and wears away the toes of his shoes, leaving the heels undiminished in thickness; the hind feet may be kept well under him to diminish the pressure upon the fore-feet; in the stable, he is mostly lying down; heat of the foot and heel, especially the heel.

TREATMENT.—In the earlier stages when there exists only irritation and inflammation, and no changes of structure or disorganizations have yet occured, the A.A., together with cold applications kept to the foot will be sufficient. Give a dose of fifteen drops four times per day.

In more extreme or advanced cases, the sole should be pared down and the quarters rasped, and shoe worn without nails on the inner quarter, to unbind as far as possible the imprisoned bone, and the foot kept anointed with the VETERINARY OIL, and the use of B.B., the main remedy. These will be successful in the incipient or milder stages of the disease and will vastly benefit old or chronic cases.

Sand Crack, Quarter Crack

That is a separation of the fibres of the hoof from above

downward—rarely crosswise. The usual treatment is to drill two holes through *each side of the crack* and then pass copper or iron wire through them. Both ends of the wire are then drawn and clinched down and fastened in the same way as the nails in shoeing. The crack itself is then to be filled with cobbler's wax after having been thoroughly cleaned out. Give also, ten drops of the J.K., morning and night, to promote the growth of the hoof.

A yet better method is to properly prepare a *horse shoe nail* by cutting *bards along in it, from head to point.* Then drive the nail from one side of the crack through to and beyond the other at least half an inch from the crack. The clinching of the point of the nail will drive the bards back and firmly fasten them, and the head and point may be filed down and smoothed off. A long crack should have two nails. The shoe should be so fitted and the hoof so pared away, as to *take the bearing off from the cracked portion,* and as the hoof again grows down, it should be again *cut away between* the *hoof and shoe with a saw,* so as to keep the bearing of the cracked part of the hoof free. You thus rivet the broken parts together, and by taking off the strain allow the crack to grow out, and heal up. Of course a horse with a quarter crack should only be put to the most moderate work, if any, as violent exercise or hard work will be sure to aggravate and increase the difficulty, and may render a cure impossible.

Quarter crack only occurs when some brittleness or defective horny growth is present. Correct this defect by giving the J.K., fifteen drops, morning and night, and apply HUMPHREYS' VETERINARY OIL to the crack as often.

Corns

A corn is a bruise upon the sole of the foot at the angle between the wall and the bar, and has this resemblance to the corn in the human subject, that it is produced by pressure and results in lameness. It may be caused by contracted feet; cutting away the bars: too thick-heeled shoes or weak, flat feet; dirt getting between the shoe and heel of the foot; or from not having the foot sufficiently pared out.

SYMPTOMS.—The pressure arising from these causes produces an irritation, congestion, soreness, and even extravasation of blood under the horn, with often a reddish appearance and a softer feel than other parts of the sole. The place is painful when pressed upon, the horse flinches and is more or less lame. In bad cases matter may form, and unless a vent is made, may underrun the sole or appear at the coronet in the form of a Quittor.

TREATMENT.—In most cases, simply apply the VETERINARY OIL to the sore place night and morning after having properly cleansed the foot. See that the shoe does not press upon the sore place, but has its bearing upon the outer crust of the hoof. If matter has formed under the corn, the dead horn may be removed and a vent made and a poultice applied to soften and discharge the matter, after which apply the VETERINARY OIL until the soreness is removed. Give I.I. mornings and J.K. at night, and keep the OIL applied to the surface. Change the poultice and dressing each night and morning. In a few days the foot will be ready to shoe in the usual way, using, however, a leather sole to keep out the dirt. If a quittor has formed, it should be treated as such.

Prick in the Foot

Sharp substances, such as nails, glass, pointed stones, or similar substances, not unfrequently penetrate the foot in traveling, or the shoe may be partly torn off, and the loosened nail be thrust into the foot, or a nail may go wrong in shoeing.

When a sharp pointed object is picked up on the road, it may enter the toe of the frog and wound the navicular joint, or the flexor, at its insertion into the pedal bone, and let out the "joint oil," in which case there is danger of permanent injury. The wound may lie further back, and be in the bulbous heels or cushion of the frog; in this case there is less danger.

In shoeing, the nail may be driven too near the laminæ, or even wound them; in the latter case the horse *will flinch;* in the former he may not feel the nail till he *puts his foot to the ground.* If on the day after shoeing he walks lame, the foot is hot to the touch, the horse flinches when the crust is tapped with a hammer, especially

where there is a nail, it may be assumed that the shoeing is at fault.

SYMPTOMS.—Lameness, with heat in the foot and tenderness on pressure. In some cases, no matter will be found, but in others a black serous or purulent discharge will issue from the wound when opened, and the sole will probably be underrun.

TREATMENT.—If there is simply *heat of the foot* and *lameness,* remove the shoe, see that all nails or parts of nails, or other foreign substance is taken out. Apply and keep the foot wet with HUMPHREYS' MARVEL WITCH HAZEL and give the A.A., once in three hours, to reduce the inflammation. If matter has formed, LET IT OUT. Apply the VETERINARY OIL to the hole or orifice, and give A.A. and B.B., in alternation, a dose four times per day, and later the B.B. and I.I., to dry up the discharge. If the horse is required for work before the horn has covered the wound, a leather sole and the VETERINARY OIL dressing must be used.

Quittor

This is a deep, narrow ulcer, opening upon the coronet, and leading into an abscess in the foot. It may be caused by treads, or overreaches, or corns, but most commonly from prick of a nail or other sharp substance. It is attended with more or less lameness; heat and pain in the foot, and discharge of matter from the open wound, But if it has been caused by the matter from a corn, the coronet above the heel will have upon it a hard, painful swelling, which afterward becomes softer and larger.

TREATMENT.—If the quittor arises from a wound of the sole or prick, after the wounded part has been pared out and poulticed, then with a probe gently find out the direction and number of pipes, and with a fine syringe, inject HUMPHREYS' MARVEL WITCH HAZEL of full strength into the opening, two or three times per day. The VETERINARY OIL is better if you can get it into the opening.

When it arises from a corn in the heel, and matter has got into the coronet, the swelling must be cut into and the discharge let out; then poultice night and morning, inject the MARVEL as before, rasp down the wall of the hoof until it yields to the pressure of the thumb, and put on a bar-shoe. Roll a bandage around the coronet to keep the dirt out from the quittor.

If there is some considerable heat and fever, the A.A., may come in play giving fifteen drops four times per day. But the I.I., should be given, fifteen drops three times per day, at first, and then morning and night.

Spavin

This is an affection of the tendons, ligaments, and bursa connected with the hock. From a strain, violent exercise, or similar cause, an increased action is set up in these parts which glide upon each other, irritation results and the parts enlarge. Or, an exudation of serum occurs, tinged or not with blood, which may be absorbed afterward or remain for a long time a soft movable tumor; or by degrees an ossific or bony deposit takes place, resulting in a firm, hard, bony tumor. These several stages or degrees of the same common affection have been termed *Bog-Spavin, Blood-Spavin,* and *Bone-Spavin.* Windgalls and Thorough Pins are but local variations of the same essential condition—enlargements of the bursa and tendons of the joint. It usually shows itself on the inner and lower side of the hock at the lower portion of the joint. A careful comparison of the two legs with the eye and hand will best disclose the evil. "Sometimes it appears as a soft swelling of the femoral vein along the inner surface of the hock. Or, again, as a hot, painful, lameing swelling, extending from the posterior border of the hock downward, which may afterward become a hard, bony tumor, insensible, causing the animal to limp only when making some exertion. Or, the swelling extends along the inner surface of the hock, oblong, a little broader above than below, bony, sometimes involving the entire joint, and occasioning more or less limping. Or a soft round swelling over the whole internal surface of the hock, at first not inpeding the horse's gait, but afterward becoming indurated and causing a rigidity of the hock and consequent lameness. Or a hard osseous swelling at the upper and inner side of the femur, causing a lameness depending upon the extent to which the ligaments of the joints are involved."

At first the animal seems afraid to use one or the other of the hind legs, and a little lameness is noticed on first

starting off. Afterward, when returning to the stable after exertion, the horse stands on the toe of the affected limb, and limps considerably on turning around and first commencing to walk; after moving a little, the lameness disappears, and only returns again after he has been standing some time. This will soon be followed by swelling.

CAUSES.—There is a predisposition to this affection in some families of horses, and when this predisposition exists, strains, violent exertion, over-work, a blow or other injury, readily develops the spavin. Horses with high legs, from three to seven years of age, are most liable to it.

TREATMENT.—In the earlier stages, while the lameness is yet recent, and little or no swelling has appeared, bathing the joint with HUMPHREYS' MARVEL WITCH HAZEL and giving B.B., night and morning, doses of fifteen drops, will be sufficient to remove the lameness and generally prevent the swelling. When the swelling is still soft and recent, bathing the joint with THE MARVEL and giving the B.B., night and morning, will reduce the swelling and relieve the lameness.

In all other cases of spavin, whatever may be its particular form or situation, give fifteen drops of B.B., each morning and night, see that the legs are well rubbed, with but moderate daily work or exercise. The pain, lameness, and subsequent exudation of bony matter depend upon the affection of the ligaments of the joint. This being relieved, the whole affection disappears. All recent and soft spavins may be successfully treated thus, and even the most inveterate ones will be relieved and benefited. It is not pretended or presumed that old chronic, years' standing spavins, when there are extensive ossific dispositions or necrosis, are to be caused to disappear by this or any medicine. But all those incipient cases may be thus cured and even the old enlargements vastly improved.

Splint

In consequence of an injury a bony tumor arises in the inside of the fore-leg below the knee; sometimes, though rarely, it is seen on the outside, and even on the hind legs. After having existed some time, they seldom occasion lameness, except so situated as to interfere with the action of the tendons or ligaments of the legs. During

the forming stage, the horse is lame because the periosteum or covering of the bone is inflamed, but after this has subsided and the bony exudation is thrown out, it disappears, except in the case above mentioned. In some cases, in the beginning, the feet are hot and painful, the animal likes to remain lying down; and if only the forefeet are affected, he puts them down with great care and evident pain, and there is general fever and suffering, which passes off with the more decided local manifestation. If the tumor is of some standing, it may be quite difficult or impossible to cause its disappearance. But happily these old hardened tumors seldom interfere with the essential usefulness of the animal.

TREATMENT.—In most cases if there is heat and feverish excitement of the system, give fifteen drops of A.A., and B.B., alternately, five times per day, that is, a dose of B.B. morning, noon and night, and a dose of A.A., at say ten o'clock in the forenoon and at three in the afternoon, until the heat and lameness are partially subdued, and then give B.B., morning and night, until the lameness and irritation have entirely subsided. Old cases may only require a dose every day.

Ring Bone

Consists of an enlargement and ossific deposit (near the fetlock joint) in consequence of a strain and inflammatory action. It may appear on one or both sides of the foot, or completely surround it, giving rise to the name. One or more feet may be affected by it. It is generally recognized by a mere bony enlargement on one or both sides of the pastern, and the lameness is not very considerable.

TREATMENT.—At the commencement bathe the part with HUMPHREYS' MARVEL WITCH HAZEL or VETERINARY OIL from day to day, and give fifteen drops of B.B., three times a day. In chronic cases, give a dose morning and night, or even only once per day. Cases of considerable standing will materially improve, and recent or fresh cases may be permanently restored.

Thrush and Canker

This disease is an inflammation of the lower surface of the sensible frog, which secretes matter of a peculiar offensive smell, instead of healthy horn. The matter issues

from the cleft of the frog. In a sound frog the cleft is shallow, but when contracted or otherwise diseased, the cleft deepens even to the sensible horn within, and through this the matter issues. Afterwards the discharge becomes more abundant and offensive; the frog wears off and a fresh growth of horn fails to appear. It then becomes thin, shriveled, contracted and fissured; and as the disease extends, the matter becomes still more fetid, and may terminate in a yet more unmanageable form of disease, namely, *canker*. In Thrush, the frog is painful when pressed upon by the thumb or pincers, or when the animal treads upon a stone. As a consequence of neglected thrush, the horn may separate from the sensible part of the foot, and unhealthy vegetations, proud flesh, fungous matter spring up, occupying a portion or the whole of the sole of the frog, and finally involving frog, sole and bars, in a mass of putrefaction, constituting the worst form of *canker*.

TREATMENT.—As thrush is often caused by uncleanliness and constant moisture of the feet, the greatest care must be taken to keep them dry and clean, and especially from dung and urine. If connected with contracted fore-feet, particular care must be given to shoeing.

The frog should be carefully pared down and all loose, ragged portions removed in order to prevent the accumulation of matter and dirt. The discharge wiped off by means of a tow pressed down into the cleft with a thin piece of wood. Then smear the frog and cleft with a mixture composed of half an ounce of *sulphate of copper* (blue vitrol) and six ounces of tar made into a paste or the VETERINARY OIL. A small piece of tow dipped in this mixture should also be placed in the cleft, or in whatever part of the frog a sinus, hole or cleft exists. In bad cases, repeat the dressing daily; in others, once in two or three days is sufficient. If the dressing is properly applied it will not fall out or admit the entrance of dirt. Should the frog be extensively diseased, a bar-shoe may be necessary, and the dressing will then be kept in place by the cross bar of iron, or a leather sole may be used under the shoe.

Throughout the treatment give fifteen drops of I.I., each morning and fifteen drops of J.K., every night, for the growth of healthy hoof.

CHAPTER IV.—Part I.

DISEASES OF THE EYES

Albugo, or Spot in the Eye, Opacity of the Cornea

In consequence of a blow, stroke of a whip, or similar injury, an inflammatory action is set up in the eye, the result of which is an effusion of serum between the lamina of the outer coating of the eye, which renders the cornea or clear part of the eye, whitish or opaque in spots, interfering materially with the sight and usefulness of the organ. But little can be done to remove those of long standing, but recent cases, or those where inflammation is just subsiding and the opacity only forming, will be dispelled by frequently bathing the eye with Humphreys' Marvel Witch Hazel, and giving fifteen drops of A.A., three times per day. In many cases of opacity a portion of soft honey, the size of a small pea, put in the eye daily, has been known to have a wonderful effect in removing such opacities.

Amaurosis, Gutta Serena

This disease consists in entire or partial loss of vision in consequence of paralysis of the optic nerve, or interruption of its communication with the brain. Injuries of the head, or ball of the eye, or some disease of the brain, are the usual causes. The horse walks cautiously, head elevated, and ears move quickly backward and forward, the eye has a peculiar glassy appearance, and the pupil does not dilate and contract when light is brought near or removed from the eye.

But little can be done for these cases. In the earlier stages a dose of A.A., may possibly arrest its progress, but generally it is incurable in man or beast.

Cataract

In consequence of injuries to the eye, blows, contusions, etc., or as a consequence of severe and repeated inflammation, the crystalline lens becomes opaque so as to interfere with or altogether destroy the sight. On examining the eye, deep in the pupil, a whitish, yellowish, or brownish body is discoverable. Sometimes, especially in the commencement, white streaks run from the center outward, or the whole chamber within the pupil looks dim and whitish.

Old Cataracts are incurable, but recent and forming cases may be benefited by giving A.A. and B.B., a dose of fifteen drops, every night, alternately.

Ophthalmia, Inflammation of the Eye

There are in the horse two well marked forms of sore or inflamed eyes. Acute Ophthalmia and Periodic or Moon Blindness. Acute inflammation occurs usually in consequence of some irritating substance, hay-seed, dust, etc., having got into the eye, or from overheating, heated foot, or from hereditary predisposition.

Symptoms.—It comes on with heat and uneasiness, the animal keeps the eye closed, or dreads the light, the eyeball and inside of the lid look red, and the ball is protruded and the eye secretes a quantity of water, which runs down on the cheek, or of humor, which becomes purulent, and glues the lids together. The cornea is dim and whitish, or covered with a scum, the haw is swollen and red.

Treatment.—Examine the eye for dirt, hay-seed, hair, or other substances, and if found, carefully remove them. They are more frequently under the upper lid, which may be turned inside out over the point of the finger, by taking the lashes between the finger and thumb, and turning the lid upward. The eyes should be bathed with Humphreys' Marvel Witch Hazel, diluted one-half with water, or if this be not at hand, make a lotion by putting four or five drops of A.A., in a half-pint of pure, soft water, and the eye should be bathed with this two or three times per day, so long as the heat and swelling

exist. Give at the same time, in recent cases, fifteen drops of A.A., four times per day, and in old cases the same dose morning and night. Arnica is of little consequence, except where the inflammation is the result of a bruise.

Periodic Ophthalmia is really a general affection, the result of teething, and usually appears on the cutting of the middle incisors, the molars, and tusks, and hence, at the age of from three to five years.

Symptoms.—Generally only one eye is attacked; the eye looks smaller, swims in tears, and is sensitive to the light, the cornea becomes dim and leaden, and the lens look gray. The pulse is full and frequent; the mouth hot, tongue dry, the water scanty and bowels constipated. There is evidently feverish excitement of the system and congestion of the blood to the head. Not unfrequently the inflammation passes from one eye to the other. Severe or repeated attacks are very apt to return again or leave as results, dimness of the cornea, opacity of the lens or cataract behind them.

Treatment.—Exclude the animal from the glare of the light, and give at once ten drops of A.A., every four or six hours. Bathe the eye from time to time with Humphreys' Marvel Witch Hazel diluted with an equal quantity of soft water, or with the lotion mentioned in the case of Acute Ophthalmia. Keep him on low diet and the case will generally be soon relieved. As the eye improves, the intervals between the doses of medicine should be prolonged. Often a dose night and morning is sufficient. Given early it will prevent the development of serious consequences.

The Haw

We mention in this connection a curious mechanism of the eye more to guard against abuses than to cure disease. Concealed within the inner corner of the eye, the margin only visible, is a black or pied triangular-shapen cartilage called The Haw, with its broad part forward. It is concave, exactly to suit the globe of the eye, and convex without, so as to adapt itself to the mucous lining of the lid, and the base of it is reduced to a thin, sharp

edge. At the will of the animal this is rapidly protruded from its hiding-place, and passing swiftly over the eye, shovels up every nuisance mixed with tears, and then being suddenly drawn back, the dust or insect is wiped away as the haw again passes under the corner of the eye. The haw is subject in common with other parts of the eye to inflammation and swelling and senseless grooms term this "the Hooks," and have been known to draw the haw out and cut it off, to the lasting injury of the organ.

Such an inflammation only requires the usual treatment, and will be subdued by bathing the eye with Humphreys' Marvel Witch Hazel, diluted one-half water, and giving A.A. internally, ten drops as a dose and repeated morning and night.

Injuries to the Eye

Must be treated both internally and externally.

Remedies.—Humphreys' Marvel Witch Hazel and A.A.

The Marvel, if the injury has been produced by a mechanical cause, as blows from a whip, punctures, etc., and there is much soreness and inflammation, it should be applied externally, in the form of a lotion of one part of Marvel to three parts of water, and the injured part bathed three times a day, at the same time A.A. should be given internally.

The A.A. should be given, if there is much inflammation, or the eye is congested.

H.H. may be used later, if there is any dimness of the eye left.

Sometimes pieces of hay or chaff get into the eye and cause a great deal of irritation; of course the first thing to be done is to carefully remove them, and then apply the Marvel, diluted with half water, which, in the majority of cases, is all that is necessary to be done.

CHAPTER V.—PART I.

DISEASES OF THE CIRCULATORY SYSTEM

Structure and Action of the Heart

Before entering on a description of the diseases of the Heart, it may be well to give a brief description of that organ and its functions, for the benefit of non-professional readers.

The heart is placed in the center of the thorax, in the space between the lungs, and opposite the third, fourth, fifth and sixth ribs. It may be described as a muscular forcing pump, for the transmission of blood to all parts of the body. The texture of the heart is muscular, with tendinous or cartilaginous bands around the openings between the auricles and ventricles, and between the latter and the arteries. It contains four chambers, viz.: two auricles and two ventricles; each auricle communicates with its corresponding ventricle; but the auricles do not communicate with each other, nor do the ventricles. The opening in each pair is guarded by a little valve, in order to ensure the flow of blood in one direction, and to prevent any regurgitation or re-flow from the ventricles into the auricles. We find valves for a similar purpose placed at the origin of the pulmonary artery and the aorta, which proceed from the right and left ventricles, and are the channels by which the blood flows through the former to the lungs, through the latter to the general circulation. The chambers of the heart are lined by a smooth membrane of a serous character, called the endocardium, which is often the seat of disease; and the whole is enclosed in a fibro-serous sac, called the pericardium.

On examining the heart, it will be found externally divided by a furrow, which corresponds with a muscular septum, dividing the organ into two parts, or two hearts, having no direct communication with one another, except in the foetus. The right side, whose parts are thinner than the left, may be called the venous heart, as it receives

the blood in an impure state from the veins, and transmits it through the pulmonary arteries to the lungs, where it becomes exposed to the atmosphere, and converted from venous into arterial blood. It is then conveyed by the pulmonary arteries to the left auricle and ventricle, whence it is propelled through the aorta and its branches to all parts of the body.

The dimension and weight of a healthy heart vary so much that it is not possible to give them accurately, but the average is stated as follows by Mr. Walsh: " It is about ten and a quarter inches from the base to the apex, seven inches in its antero-posterior diameter, and five and a quarter from side to side. In weight, it varies from six and a half to seven pounds. The auricles have much thinner walls than the ventricles, and the muscular substance or the left ventricle, occupying the apex of the heart, is very much thicker than that of the right."

The nerves which supply the heart are the pneumogastric and sympathetic.

Idiopathic disease of the heart in the equine race is a very rare occurrence; but, as a consequence or accompaniment of influenza and fevers of a low type, is by no means uncommon; it is therefore of importance that we should know how to diagnose both the organic and functional derangement of so important an organ, which can only be done by making ourselves familiar with.

The Action of the Heart in Health.—There are three means by which this knowledge may be attained: first, by *Percussion*, which, in the human subject, affords an index to the size and position of the heart; but in consequence of the less exposed position of that organ in the horse, is of little value, except in diagnosing Hydrops Pericardii. Second, by *Impulse,* or the force of the beat imparted to the hand placed flat on the near side of the chest, just behind the elbow. Third, by *Auscultation*, which is the only reliable way of ascertaining the condition of the heart, and consists in placing one ear, or a stethoscope, in the same position as that already described. Two distinct

sounds can be heard; the first, termed the "systolic," is louder and more prolonged than the second (which immediately follows), and seems to depend upon the contraction of the ventricle; during this contraction the organ elongates and rotates on its axis from right to left, thus producing the impulse and sound on the left side of the thorax. The second, "diastolic," or "flapping," sound, cannot be heard in a fat, circular-chested horse; it is supposed to arise from the regurgitation of the blood, which is in the aorta and pulmonary arteries, forcibly closing the valves placed at their origin in the ventricles, so as to prevent the blood coming back into the heart. These sounds together form what is called the "beat," and are succeeded by a brief interval of repose. In the healthy animal these beats are uniform and regular, corresponding with the pulse; but in disease there may be, first, increase or diminution in the frequency and strength of the beats; second, irregular or intermittent action of the heart. In the latter case, we hear two or three beats in quick succession, and then a longer interval of repose than is natural, followed by the consecutive, quick beats and long repose, the number of the former and duration of the latter being singularly uniform. Third, the systolic and diastolic sounds may increase, diminish, or be succeeded by other sounds indicative of disease hereafter described.

Pericarditis—Dropsy of the Heart

Definition.—Inflammation of the fibro-serous membrane which invests the heart, causing the effusion of a serous fluid. It occurs as a primary affection and as a complication in Influenza, Rheumatism and other constitutional diseases.

Causes.—When met with in an idiopathic form, which is very rare, it may depend upon exposure to damp, cold, changes of temperature, and those unhealthy conditions which also cause acute diseases of the respiratory organs. It may also arise from a sudden change from low, to rich

heating food, or from the field to a hot stable. But it usually occurs as an accompaniment of Pleurisy or Rheumatism.

Symptoms.—The horse stands quiet, showing signs of pain and anguish, with sunken head, anxious expression in the face, dilated nostrils, frequent (100 to 120), wiry, and sometimes irregular or intermittent pulse, and general intense fever.

The breathing is also accelerated (36) and difficult, and is accompanied by a movement of the flank similar to that seen in broken wind, and by a deep depression along the margin of the costal cartilages. In the early stages, pressure on the left side, and smart percussion in the region of the heart, cause flinching and expression of pain; and auscultation, *before exudation has taken place*, reveals friction —*to and fro*—sounds. These sounds are, however, not uniformly present in this disorder, nor is their presence an unquestionable proof of its existence, for similar sounds may be do to pleural disease, the latter being characterized by synchronism with the respiratory movements. The friction sounds are therefore of little value, except as concurrent with other symptoms. They also cease when exudation or adhesion has taken place; then the heart's beats are muffled. In the later stages, the heart, which at first palpitates, soon becomes fluttering and uncertain in its beat, conveying a peculiar pulsation to the hand, not easily to be described. No impulse can be felt when the effusion is considerable. Percussion gives a dull sound over the region of the heart, but not so in other parts of the chest, where the respiratory and bronchial sounds may be heard, thus distinguishing Hydrops Percardii from Hydrothorax. The breathing gradually becomes more distressing, and movement aggravates the distress; the pulse more feeble and even imperceptible at the jaw; the ears and legs cold; the legs, sheath, chest, abdomen, etc., œdematous; and the general wasting rapid till death ensues.

Diagnosis.—The friction sounds, and pain on percussion

in the region of the heart, with irregularity in its beats, and a peculiarly anxious expression of countenance, are the principal pathognomic symptoms—to which Delafond adds dyspnœa, attended by an action of the flank like that of a broken winded horse. The great difficulty is to distinguish this disease from Pleurisy, which may be done by accurately marking the period at which the frictional sounds occur, viz.: during the systole or beat of the heart, whereas for Pleuritis we hear it during the respiratory movements of the lungs. When the pericardial fluid becomes much increased, the friction sound ceases, as does also the impulse of the heart, which at first usually palpitates, then becomes fluttering, feeble, and intermittent, and at last can with difficulty be heard. Percussion gives a dull sound in the region of the heart, but just behind it, as well as in other parts of the lungs; if there is no disease in them, or Hydrothorax, the resonance in those parts will serve to distinguish Hydrops Pericardii from Hydrothorax.

Prognosis.—In the strong, and in the majority of cases, favorable.

Treatment.—A.A., given every three hours, and later, four times per day, will be proper.

Endocarditis

Definition.—Inflammation of the fibro-serous membrane which lines the heart.

This is a very common complication in Rheumatism, and is very acute and dangerous; the danger arising less from the fatality of the acute stage, than from the lesions which are consequent upon it.

Symptoms.—In Endocarditis the contractions of the heart are energetic, vibratory, and often irregular; the pulse is also irregular, and frequently intermittent, and there is a contrast between the feebleness of the pulse and the violence of the heart beats. Leblanc states that this last symptom is characteristic of Endocarditis. He has also observed a loud metallic tinkling, and a *bruit de*

souffle, or sound like the blowing of a pair of bellows, or a sawing noise, like bronchial respiration, accompanying the systole of the heart. In the early stages, the breathing is not so difficult as in Pericarditis; but if the auriculo-ventricular valves are thickened, it becomes distressing. Sometimes the whole of the membrane is thickened; in other cases the lesion is limited; in others, the abnormal growth forms a cardiac Polypus, which may grow to an enormous size. The legs are usually cold.

Pathology.—The endocardium, although a serous membrane, is mixed with fibrous elastic tissue at its valvular reduplications, which accounts for the disease being so frequently associated with rheumatism, and for the morbid appearances more commonly witnessed in the valvular structure of the heart than elsewhere. The natural result of inflammation in this, as in other serous membranes, is the effusion of lymph, and consequent thickening, which sometimes interferes with the play of the valves, or narrows the auriculo-ventricular openings, thus producing the bellows-sound which has been described as one of the chief symptoms. The inflammation may extend to the muscular substance of the heart, which becomes darkened in color and easily broken down; while in some cases large quantities of fibrin are thrown out, which quite block up the auriculo-ventricular openings and orifices of the large blood vessels. To Endocarditis may also be traced Tumors and Polypi, as well as Hypertrophy and Dilatation. Abscess in the walls of the heart has also been observed as a consequence of Endocarditis.

Diagnosis.—The pathognomic symptoms of Endocarditis are frequently very obscure, being like those of Pericarditis; but it is of very little consequence, as the treatment must be similar. However, the bellows-sound in the former, and the friction sound in the latter, are sufficient in the majority of cases to point out the nature of the disease when taken in connection with other symptoms which have been mentioned.

Prognosis.—Owing to the various terminations of

Endocarditis, nearly all of a serious character, our opinion as to the ultimate result must be unfavorable, although in the majority of cases the animal appears to recover; but he is found afterwards not as good in his wind as formerly, easily distressed, and when going at an ordinary pace with hounds, will probably fall down and expire suddenly. A.A. will be our best resource.

Hypertrophy—Enlargement of the Heart

Definition.—An abnormal growth of the muscular tissue of the heart by thickening of the walls.

Varieties.—There are three. Simple Hypertrophy is the thickening of the walls without any change in the capacity of the cavities. Eccentric Hypertrophy is the thickening of the walls with dilatation of the cavities. Concentric Hypertrophy is the thickening of the walls with diminution of the cavities. The lesion is usually associated with other diseases, and especially with affections of the lungs.

The disorder is slow in its progress, though it soon interferes with the working capacity of the animal. It predisposes to other lesions, such as congestion of the lungs, hemorrhage, etc.

Causes.—Excessive effort of the heart to overcome obstruction to its action; constriction of the vessels and of the openings between the different cavities of the heart; deposits on the semi lunar valves; Aneurism of the aorta or the pulmonary artery; excessive physical exertion and consequent exhaustion of the heart. Mr. Pritchard remarks that "horses, particularly those employed in quick draught, are commonly called on to perform arduous tasks with full stomachs, by which the free action of the lungs is considerably impeded; thus, obstruction being given to the circulation through the pulmonary vessels, corresponding increase of force in the action of the heart is the consequence." Hypertrophy has been often observed in broken winded horses.

Symptoms.—Strong, impulsive movement of the heart,

which remains constant; intensity of sound, with a loud, hollow thumping beat; a metallic *bruit* or "clack"; irregularity of rythm; dullness on percussion. The horse is easily distressed, palpitation comes on with ordinary quick work, and there is an anxious expression in his eye on these occasions, which leads us to suspect that there is something amiss with the animal. These symptoms are attended with languor, coldness of legs and ears, dyspnœa, giddiness or Megrims, loss of appetite, and, in a later stage of the disease, with œdematous swelling of the chest, abdomen, and extremities.

Pathology.—The thickening of the walls of the heart may be regarded as a beautiful provision of nature to strengthen the organ and enable it to overcome the obstacle which exists to the free circulation of blood through it. The thickening of the muscle depends upon excess of nutrition consequent on increased action; similar to the change in the biceps muscle of the blacksmith's arm from hard work.

It may be an idiopathic disease not dependent on obstruction; but such cases are very rare. The obstruction will usually be found to depend on disease of some of the valves, or constriction of the aorta or pulmonary artery at its origin. The Hypertrophy may be general, or we may find only one auricle or ventricle (generally the latter) whose walls are thickened.

Diagnosis.—The increased impulse of the heart, especially after quick work; the irregularity of the pulse and thick wind, without any lung disease being present; and the dullness on percussion over the cardiac region, are the chief pathognomic symptoms.

Prognosis.—Although the disease is incurable, a horse may live for years with enlarged heart.

Treatment.—Doses of A.A. will be of value in conjunction with only moderate work and good care.

Atrophy of the Heart

Definition.—Emaciation or wasting away of the walls of the heart.

CAUSES.—Similar to those of dilatation. Loss of nervous power through the degenerating influence of fevers induces Atrophy by weakening the muscular fibres of the heart.

SYMPTOMS.—Feeble impulse of the heart, with louder sounds than are usually heard on applying the ear to the chest. The pulse is generally slow, feeble and intermittent. The veins in the neck may also be observed to pulsate. The animal is dull and fastidious in his appetite; dropsical swellings appear on the chest and belly; the legs become cold or œdematous. There is difficulty in breathing on the slightest exertion, and sometimes palpitation or fluttering of the heart.

PATHOLOGY.—There are two forms of Atrophy, one in which there is a wasted and flabby appearance of the organ, whose parietes are so weak that when removed from the body it does not retain the rounded symmetry of a natural heart, but becomes a shapeless mass when thrown on the ground. This form of Atrophy was frequently met with during the prevalence of the Cattle Plague, and it has been observed in connection with some forms of Influenza. The second form of Atrophy is termed Fatty Degeneration of the heart. Of this there are two varieties. In one the fat grows on the surface of the organ, encroaching on and insinuating itself between the muscular fibres, impoverishing them, and ultimately causing them to waste; the result is that the muscular walls become thin. In the other variety, fat in a molecular form takes the place of the muscular element, and ultimately fills the sheaths, which previously contained muscular fibre.

Dilatation of the Heart

DEFINITION.—Enlargement of one or more of the cavities of the heart.

CAUSES.—Some defect in the valvular apparatus, allowing the blood to regurgitate and to distend the cavity, which, by pressure on the walls, causes absorption and

attenuation; loss of power in the nervous system; fevers of a sthenic or typhoid character, which weaken the muscular fibres.

Symptoms.—The action of the heart is feeble and tremulous; the pulse small, soft and weak; the least exertion brings on Dyspnœa; there are languor, giddiness, or "Megrims"; the horse is "off his food"; the ears and legs are cold; and ultimately there is œdema of the legs, belly and chest.

Pathology.—Dilatation may exist either with Hypertrophy or with Atrophy of the walls of the heart, and in the latter case is most probably an effect of the emaciated state of the muscular substance of the heart, which allows the blood to accumulate, and to distend one or more of the auricles or ventricles.

Treatment.—Dilatation and atrophy of the heart admit of very little help in the majority of cases, moderate work and occasional or daily use of A.A., will be proper, and do something towards improving the condition and prolonging the usefulness of the animal.

Palpitation

Definition.—An abnormal increase in the action of the heart.

Irregularity in the action of the heart is a functional derangement, and not do to organic disease. It occurs in horses that are in feeble health and out of condition, or that have been subject to severe and straining exercise, such as pulling a heavy load up-hill or running hard with the hounds.

Anemic Palpitation

Cause.—Poverty of blood.

Symptoms.—A dull, thumping sound is heard to proceed from the cavity of the chest, which, in extreme cases, may be heard on both sides, and may even be audible at a distance of some yards, corresponding to the beatings of the heart and pulse; tumultuous breathing, redness of the mucous membranes, increased temperature

of the body. Auscultation will detect blood sounds in the neighborhood of the heart, large arteries, and veins. These "anemic murmurs" vary with the condition of the blood, and are caused by its "churning" as it passes through the traversing channels of the heart. They constitute a continuous hum, or the *"bruit de diable"* of the French. In some cases the action of the heart is so great that it causes shaking or jerking of the whole body.

PROGNOSIS.—When the palpitation does not proceed from any organic disease, we may expect to remove it in a very short time by appropriate homeopathic remedies. A dose of A.A. often relieves an attack.

Differences Between So-called Spasm of the Diaphragm (Palpitation) and True Spasm of the Diaphragm (Hiccough).

SO-CALLED SPASM OF THE DIAPHRAGM.	TRUE SPASM OF THE DIAPHRAGM.
Hiccough is seldom present.	Hiccough is always present.
The action of the abdominal muscles is increased and the heaving of the flanks is quite visible. In those cases, where Palpitation occurs from a hard run with the hounds, the diaphragm becomes tired, the abdominal muscles come to its assistance in carrying on the respiration and the heart's action is increased in order to overcome the obstacle which probably exists in the pulmonary arteries.	The action of the abdominal muscles at the flank is imperceptible.
The flanks are tucked up.	There is great fullness in the flanks from the abdominal viscera being pushed backwards,

Spasm of the Diaphragm

There is a form of palpitation which has received this designation, and has been mistaken for a functional disorder of the diaphragm, or excessive motion of the abdominal muscles. True Spasm of the Diaphragm is Hiccough; and in this condition there are no such sounds as characterize Palpitation.

Cause.—The excessive action of the heart, when the horse has been distressed by severe gallops or an exciting run, produces a jerking of the whole body, as the heart strikes the dorso-costal region, towards the upper part of the first false ribs.

Symptoms.—These are much the same as in Anemic Palpitation; but in addition there is violent elevation of the flanks, perceptible to the observer, and, if being ridden, most unpleasant to the rider. The symptoms appear and disappear suddenly.

Treatment.—Give A.A. once in two hours, at first, and later three times per day.

Embolism

Definition.—Distension and plugging of the arteries by solid coagulated lymph, consisting of fibrous clots, fragments of decaying or suppurating tissue, and the elements of Tubercule and Cancer.

Cause.—The reason why there is deposition of the offending material is unexplained; but it is brought from different parts of the circulatory system, from diseased tissues through the veins and the heart, and deposited so as to obstruct larger or smaller arteries, and thus prevent the flow of arterial blood to the limbs and organs. The arteries and hind limbs are most liable to this disorder.

Symptoms.—An accurate diagnosis is not always practicable, because the disease itself is obscure. The symptoms which have been observed attending Embolism are great pain, profuse sweat, but cold extremities; quick, wiry pulse; and considerable general disturbance of health; anxious expression of face; looking round to the

affected parts; rigidity and contraction of certain muscles; partial recovery and simultaneous attack of the other limb, and return of attack to the first; diminished pulse in the arteries of the implicated limb; peculiar throbbing of the posterior aorta felt through the rectum; followed by partial or complete paralysis of the limb or hind quarters; and ultimately death.

Aneurism

DEFINITION.—A tumor formed by the dilatation of an artery, or communicating with an artery, and containing blood. In the first stage the tumor contains fluid blood, and pulsates; in its second stage it contains coagulated blood, deposited in numerous thin layers, resembling the leaves of a book.

Aneurism may be idiopathic or traumatic; the latter is caused by injury to the artery. In the idiopathic or spontaneous Aneurism the dilatation may be of considerable extent, or it may be limited, with the coats of the artery intact or even thickened, or the inner coat may be attenuated and the outer one pressed outward. As the Aneurism becomes old, the coats become indurated, calcified and liable to burst. It is not an uncommon disorder in the horse, and when it occurs it is generally in the deep-seated arteries. The posterior aorta, at the origin of the anterior mesenteric artery, is very subject to Aneurism as animals grow older.

DIAGNOSIS.—This is extremely difficult, for the attendant symptoms may be readily attributed to some other malady. They often come on suddenly; the horse becomes dejected, thin, and unable to work; respiration is accelerated; pulse and heart-beats are irregular; there is some stiffness in turning, or tenderness on pressure applied to the loins; swelling and cramps in the hind legs; Paralysis.

Varicose Veins

DEFINITION.—A morbid dilatation of the veins, causing a knotty, unequal swelling, so that their valves, which

cannot undergo a corresponding enlargement, cease to be efficient. The effect is a retarded and imperfect flow of blood on the return to the heart.

The disease occurs most frequently in the form of a soft, elastic tumor in the saphena vein, where it passes over the inner surface of the hock joint; but it may affect another vein, or many veins. It is commonly found where the blood has been repeatedly drawn.

Causes.—Violent efforts in drawing; strains; inflammation set up by a prick in shoeing; frequent bloodlettings.

Symptoms.—The affected veins are dilated, tortuous, knotted, and divided into separate pouches, with obliteration of the valves. Varix of the saphena at the hock joint is attended with a tumor, which gradually increases in size, is flaccid to the touch, slightly pendulous, and shaking loosely when the horse walks; becoming full and tense on pressure of the vein above it; and capable of evacuation by pressure from below upward.

Treatment.—Occasional doses of A.A., are beneficial.

CHAPTER VI.—Part I.

DISEASES OF THE NERVOUS SYSTEM

Apoplexy

Occasionally, in consequence of high feeding and deficient exercise, and especially in fat young horses, with short necks and large blood-vessels, this disease occurs. It may also come on in consequence of drawing a heavy load up a hill. It is predisposed by an over-loaded stomach.

Symptoms.—In apoplexy, the horse either suddenly falls down lifeless, or there are premonitory symptoms, such as vertigo, the animal holds his head down, or leans it upon something, yawns, perspires slightly, and moves clumsily, etc. Afterwards, the animal falls down suddenly, the circulation becomes disturbed and irregular, eyes red, protruded, and staring; breathing labored, short, rattling; body covered with sweat, and eyelids paralized. After a few convulsions the animal dies; or, in rare cases, an improvement takes place, to be again, after a longer or shorter period of time, followed by relapse, or to result in paralysis. (Compare the symptoms with those of Epilepsy).

Treatment.—So soon as any of the premonitory symptoms are observed, give fifteen drops of A.A. at once, and repeat the dose every one, two or three hours, until the animal is relieved, and then at longer intervals. If the horse falls under an attack of the disease, give of the above Remedy at once, and repeat the dose every half-hour or hour; remove the harness, etc., and from time to time pour some cold water upon the head, not too much or too violently, while you also give the medicine internally. Injections of salt and water also may be of decided advantage.

Epilepsy

This disease sometimes appears in the horse, and manifests itself in the following manner: the animal suddenly trembles, remains standing for an instant with legs spread out, staggers, and then falls; convulsions ensue; he kicks, rolls, and twists himself about, grinds his teeth, passes his dung and urine involuntarily, froths at the mouth,

the motions of the eye are spasmodic, irregular, and the respiration loud, painful and sobbing. After a while he becomes quiet, breathing regular, and he gradually comes to himself as if coming out of a dream. The duration of a fit varies from a few minutes to a half hour. The attacks return again at periods varying from a few days to several weeks or months, generally coming at shorter intervals. Epilepsy differs from apoplexy as spasm differs from paralysis, and a little attention will not fail to distinguish them.

The causes are deep-seated changes in the nervous organism, and they are rarely curable.

TREATMENT.—Give, on any premonitions of an attack, fifteen drops of A.A. at once, and you will usually ward it off. For an attack, put a few drops in the mouth as soon as you can safely do it, and repeat it every half-hour or hour, until the paroxysm is ended. Afterwards, always give one dose to prevent a return.

Vertigo, Megrims, Blind Staggers

This is rather a frequent affection of the horse, and is a consequence of an undue pressure or rush of blood to the head, in most cases also excited by indigestion or over-fullness of the stomach.

In the milder cases, the horse stops suddenly, shakes his head or even staggers in evident giddiness and half-unconsciousness for a moment, and then goes on again as if nothing had happened. In more severe cases, he stops suddenly, shakes his head, falls or drops down, or after a few unconscious turns and a violent struggle, will become insensible, and then rise up and go on again; such attacks closely simulate true epilepsy.

TREATMENT.—In all similar cases, whether incipient or fully developed, give fifteen drops of A.A., and repeat it every quarter or half hour, until the animal is relieved, or for twelve or twenty-four hours, and then at intervals of say four hours, alternate it with J.K., until restored. When this dozing, stupid condition mentioned above is present, indicating evident congestion to the head, fifteen drops of A.A., each morning and noon, and the same of J.K., at night, will soon restore the animal again.

Paralysis

Paralysis, entire or partial loss of nervous power over the muscles of certain parts or portions of the body, occasionally occurs in the horse as a consequence of mechanical injuries, severe cold, or some internal cause.

When occuring in the face, the muscles of one side lose the power of motion; the lips hang down, and seem swollen, are drawn to one side, or pulled upward; food is picked up and retained with difficulty, mastication is imperfect, and food drops readily from the mouth. Sometimes there is no feeling in the face or lips.

When the hinder part of the body is paralized, the horse is unable to rise or stand, sits on his haunches like a dog, constipation and arrest of urination are apt to be present. In slighter cases, the hind legs sway about clumsily or he drags them after him, or even walks on his fetlocks.

TREATMENT.—The first course in case of recent paralysis, is to give fifteen drops of A.A., every two hours, which continue one day; then give fifteen drops of J.K., every four or six hours, according to the circumstances, until relieved, and then morning and night for a time.

Inflammation of the Brain, Phrenitis. Mad Staggers.

This disease is most frequently met with in entire horses, and attacks especially those that are ardent, in high condition, but little worked; and it is liable to be excited by a chill after being over-heated or over-worked in hot weather. It may also arise from blows or similar injuries on the head.

SYMPTOMS.—In some cases it comes on slowly; the horse is dull and sleepy; rests his head on the manger, or places it against the wall or between his legs, and falls asleep. In this state he will, perhaps, stagger and almost fall to the ground; he, however, wakes up, stares about him, takes a mouthful of hay, chews it slowly, and ere long is again dozing or fast asleep. The eyelids are nearly closed; the eyes and nose red; the pupils dilated; the bowels bound, and pulse slower than in health. This is the congestive stage, and may continue until the animal recovers or dies; but, in general, other symptoms appear

to which the name Mad Staggers may be more appropriately applied. In such cases the pulse rises; the breathing is quickened; the nose and eyes are very red; nostrils widened; the eyes have a wild, fierce look; the feet are stamped, as if in passion; he plunges about the stall, rears upward, strikes out with his fore-feet, and falls backward upon the ground, where he lies panting and covered with sweat; his eyes are thrust forward out of their sockets, and rattles are heard in the throat. Towards the end these violent paroxysms are repeated from time to time, and it is very dangerous to approach or go near him. At last, he is so weak and prostrate that he cannot rise, and amidst convulsions, strangling, foaming at the mouth, sweating, and panting for breath, the animal dies.

Treatment.—The treatment will not be difficult, or the result doubtful, during the congestive stage; but in the fully developed or phrentic stage, quite so in both respects. The A.A., is the principal dependence, and a dose of fifteen drops may be given every two or three hours, at first, and as the horse improves, the intervals may be somewhat prolonged. Continue this treatment steadily and without deviation. During the paroxysms, the medicine may be given by means of a small glass syringe, or the Medicator used in a similar manner. After the more intense symptoms have passed over, some doses of J.K., alternately with that of A.A., will be of value, giving one in the morning and the other at night.

Concussion of the brain, inducing symptoms and a condition not essentially varying from the above, requires the same treatment, together with such external applications as the wound may require.

Tetanus, or Lock-Jaw

This disease is more common in the horse than in other domestic animals. It consists of a muscular spasm of the jaw (whence its name), which usually from thence extends to all the muscles of the body. It always occurs in consequence of an injury or wound, such as broken knees, open joints, severe bruises, nicked or docked tail, castration, wounds of the feet, prick of a nail, or even the galling of a crupper, through which opening the tetanus germ enters the body.

The germ of tetanus flourishes without air (anaerobic) and, outside of the body, lives in soil and manure.

Symptoms.—In general it comes on very slowly, but also, in some cases, with great violence. The muscles of the neck and jaw are first affected, so that the horse has great difficulty in swallowing and turning his neck. The muscles then become quite stiff; the mouth is nearly closed; the jaws cannot be parted, and little or no food can be taken into the mouth. By degrees all the muscles become affected with the same stiffness and cramp; the eyes are still and staring, pulled back into their sockets, and squinted outward, and the haw is thrust forward; the neck can not be bent and the muscles feel hard and firm, the head can not be raised or lowered, and is held forward, with the nose stretched out; the nostrils are expanded; the ears pointed forward, erect, and fixed; the lips are firmly stretched across the teeth, which are partly seen; the saliva flows from the mouth; and the horse looks anxious, and can scarcely move, the belly is hard and tucked up; the tail is lifted up and held straight out, and in constant tremble; the legs are firmly fixed to the ground, and spread out from each other; the bowels are bound, and urine passed with difficulty; the breathing is quickened, labored and convulsive; the pulse is disturbed easily by frightening or speaking angrily to the horse, and it becomes afterward weak and trembling. While the spasm of the muscles continue, the animal is in constant pain, although it is less severe at some times than others.

Treatment.—Where a wound or injury has taken place, and tetanus supervenes, it will be, of course, traced directly to this, and the wound should at once be treated as recommended for that particular case. If the discharge has suddenly stopped, it should be reproduced by mild, warm applications to the part.

To relieve the local injury before mentioned, the bran poultice is usually best, and should be applied quite warm, and repeated every two or four hours, or when it gets dry or cold. Look carefully and see if a nail has been driven into the quick of the foot or some such injury done, and always relieve the local injury as far as possible. The

horse should be treated with the greatest possible kindness and not be handled roughly or unkindly. The groom must not shout or speak angrily, and too much light must not be admitted to the stable for the same reason. Everything must be done in the most kind and quiet manner possible, as you have here not only a muscular spasm, but a congested condition of the brain also. Before giving the medicine, the lips, mouth and tongue, should be cleaned with a cool, wet cloth or rag, and the saliva or mucus cleared away. If the tongue or lips are dry, moisten them freely with cold water before giving the medicine. Bathe the head and neck freely and the stiffened muscles along the sides of the neck, from time to time, with HUMPHREYS' MARVEL WITCH HAZEL, and it will be well to inject into the anus a quart of linseed or olive oil to quicken the movements of the bowels.

At the first indication of any *stiffness* of the *jaws,* or *contraction* of the *eye-brows* or any *other muscle,* which are usually the earlier symptoms of Lock-jaw, give fifteen drops of A.A., and repeat the dose every hour.

If the disease has been occasioned by a *prick of the foot* or any injury of any *tendon* or like structure, give B.B., in alternation with A.A. In like manner the H.H. may be indicated and given in alternation with the A.A., where the kidneys have been implicated in the cause and there is *scanty, suppressed,* or *difficult Staling* as the result.

FOOD.—When the jaws are firmly set, no food can be given, but there are times when the spasms relax, and the jaws are rather wider apart than at other periods. Green food and gruel may then be offered to the horse. When the jaws become more open, he may have bran-tea, clover-tea, or hay tea, gruel and such similar food. If the jaws cannot be opened, or he cannot swallow, meal or oatmeal gruel may be injected, by means of a large syringe, into the fundament, and life be thus prolonged and a chance thus given for the REMEDY to act.

Care must be taken to feed sparingly when recovering, or indigestion and a fatal relapse may be the consequence.

Spinal Meningitis

This disease has become quite common in late years, sometimes appearing in isolated cases, but more frequently prevailing in certain cities or sections of country; and to such an extent as to warrent the idea of an epizootic influence. Often a large number of horses in a City, County or State, are more or less seriously attacked. It is mostly observed in the Winter and Spring, and is favored by changeable weather, damp or too close stables. Epizootics of this disease have also been observed in low-lying sandy regions, doubtless favored if not caused by hauling heavy loads over deep sandy roads and being exposed when heated and sore from such effort to cold drenching rains. The disease having once been developed from such conditions readily extends itself without the originating conditions being present. It is also more common among mares, from their being over-worked or strained when in heat.

The Earlier Symptoms are: Dullness, indisposition to move, head hanging low, and evident pain and stiffness on moving, and especially on being turned around. It loses intelligence and takes no notice of things going on around him. There is more or less tenderness and shrinking on pressure on some portion of the spine or along the entire spine, from the hips forward, or on each side over the kidneys. The animal does not stand or move firmly, but sways from side to side or staggers in walking, or seems to drag the hind legs after him, or is easily pushed one side, or even over, or leans against the stall when standing. Finally the back gives out, and the horse falls down, or cannot rise; he has no strength in the hind legs. The pulse at first is not much, or but slightly increased in frequency or force, but by degrees becomes more rapid. The urine is often scanty or suppressed, the dung dry, and the animal has from the first a distressed, suffering look.

When the disease has attained its height, the pulse becomes quick and the temperature raised, and there is

swelling of the throat and congestion of the lungs, and in some cases high delirium. Later there is increasing stiffness, paralysis and death.

The disease is frequently fatal in the more severe cases, in two or three days, but often continues from seven to ten days, and recoveries are usually quite slow.

TREATMENT.—A.A. should be given in doses of fifteen drops at first, every hour; then, after six or eight hours —the intervals may be every two hours, and as the animal improves, the intervals between doses may be prolonged to three hours.

If during the disease, THE URINE, or staling should become *very scanty*, or be passed *with difficulty*, or *with straining*, or BE SUPPRESSED, then the H.H., for urinary or kidney affections, should be given, a dose of fifteen drops, in alternation with the A.A. That is, give the A.A., and after two hours, give the H.H., then after two hours again give the A.A., and so on until the secretion of water is fully established, when the H.H. may be discontinued.

AFTER THE MORE URGENT STAGE OF THE DISEASE HAS PASSED OVER, the heat and fever mostly gone, and there yet remains SOME WEAKNESS OR PARTIAL PARALYSIS OF THE LOINS, indicated by swaying, tottering or shambling gait, the J.K. should be given at intervals of six hours. It is the special remedy for partial or complete paralysis, or for the weakness and debility after sickness.

The horse should have a loose box, or wide, roomy stall, well littered and reasonably warm, and in cool or cold weather, be well covered with blankets, and his legs should be occasionally well hand-rubbed. Let him have bran mashes, or carrot tea, and pick at some good hay. The animal should not be exercised or worked too soon after recovery.

CHAPTER VII.—Part I.

DISEASES OF THE RESPIRATORY ORGANS

Chill

This term is used to designate a transitory state or condition, which may either terminate in recovery, or in severe inflammatory disease of some important organ or affection, of which the chill is the first stage. When a chill is present it is impossible to say, with certainty, whether or what further derangement will ensue. But it is quite certain an abnormal condition is already present, with the probability that it will develop some disease or inflammation, of which we now have the first or forming stage. Usually the length and violence of the chill is in proportion to the importance of the organ attacked, and the character of the morbid influence.

The *direct* causes of a chill are: exposing the animal to cold draughts; allowing him to drink freely of cold water, in very hot or during very cold weather; exhausting him with labor and then placing him in a damp stable; washing the legs with cold water, or riding him (while in a state of perspiration), into a stream of cold water.

Symptoms.—The symptoms which are usually observed before the chill proper sets in, are: dullness or want of spirit on entering a stable after a journey; hanging of the head; standing fixedly in one place; taking little or no notice when spoken to; smelling at the food; picking amongst it for a short time and then leaving it altogether. In addition to these, the eye is dull and countenance dejected; the animal grinds his teeth and breathes quicker than usual, while the pulse is rarely or never disturbed at the commencement. Soon the coat will begin to prick and the animal will begin to tremble with considerable violence; his breathing will become more hurried, attended with a harsh blowing sound in the nasal passages; the

pulse still retaining its usual slow beat. Sometimes the breathing becomes quick, hurried and loud "panting." This condition may continue half an hour, or even two hours or more, when the patient will become more quiet, the breathing softer, more tranquil, the skin and extremities warmer, and the pulse rises to fifty or even sixty beats to the minute. From this condition the attack may, under judicious treatment, pass off, and speedy recovery ensue; or, it may pass into a Catarrhal Fever, or Pneumonia, or Bronchitis, or Lymphitis, or Laminitis, or Inflammation of the bowels, or what is quite common, a bad, obstinate cough.

TREATMENT.—With as little delay as may be, the patient should be comfortably housed and blanketed, and fifteen drops of A.A., should be given. If not better in half an hour, repeat it, and again at intervals of half an hour, until the trembling and respiration have been relieved and the chill has passed off. Then the animal may be safely left under the influence of the same medicine, to be repeated every two or three hours, so long as circumstances seem to require it.

Should any of the diseases above mentioned, or other, have become developed, the treatment must be varied to meet that condition; the particulars of which are to be sought under the respective sections in this Manual. But it will most frequently be found that having met and conquered the enemy at the threshold, but little more remains to be done beyond care and rest, for the entire recovery of the animal.

Cold, Grippe, Catarrh

The nose and air-passages are lined with a delicate membrane, whose office it is to secrete a thin mucous which lubricates the parts. Under the influence of a chill, suppressed perspiration, etc., this membrane becomes irritated, inflamed, and the discharge arrested, or it is thickened, increased, or variously modified.

The symptoms usually are, the horse is not so lively as usual; he eats little or no food; he coughs and sneezes; a watery discharge flows from one or both nostrils, and also from the eyes, which are red and swelled.

In the more severe form, there is a chill, warm skin, quick pulse, frequent and somewhat difficult breathing, sore throat, pain in the throat when pinched, frequent cough, rough coat, bound bowels, red eyes, and red and dry nose; tears flow freely, and little or no food is eaten —all symptoms indicating a catarrhal fever. As the animal improves, the discharge from the nose becomes white or yellowish, and more profuse.

Where numerous horses are attacked about the same time, the symptoms assume a more severe form, attended with a greater degree of prostration than in cases of common cold, and it then merrits the name of INFLUENZA. The symptoms of one year vary from those of another, and during the same season all animals are not handled alike, though the general outline will be the same. The attending fever is of a low grade, comes on suddenly, and soon reaches its height, and lowness of spirits and weakness are predominant. The symptoms are often as follows:

The horse is dull, low-spirited, and easily tired; he yawns and hangs his head; his coat stares; sweats easily, and breathes quickly, when slightly worked or moved. He eats little or nothing. As the disease advances, the skin is sometimes hot and again cold; the mouth and tongue are dry and hot; the white of the eye and nose are red; the bowels bound; urine scanty; the eyelids swelled, partly closed, tears flow down the face and fret the skin. The sides of the nostrils are also fretted by the acrid discharge from them, which is sometimes very profuse. The throat may be so inflamed that swallowing is attended with pain and difficulty—the animal "quids" his food, and splashes the water with his muzzle, being afraid to swallow either fluid or solid food. The throat is painful, hot, and swelled on the outside; the glands are also swelled, hard and painful, and sometimes come to a head. The cough is frequent, sometimes coming on in fits, and breathing is sometimes quite obstructed and difficult. When the disease has lasted some time, the dung is slimy

and mixed with blood, and the discharge from the nose is sometimes bloody.

A common cold may terminate in inflammation of the bronchia or lungs, by extending downward, or it may be cured and expend itself merely in the nose and throat. So an Influenza may extend and involve the pulmonary tissue, and is far more grave than is usually supposed.

TREATMENT.—When the disease commences with a chill, or any considerable degree of fever is present, give fifteen drops of A.A., and repeat it several times, at intervals of one or two hours. Then alternate the Remedy E.E., with the fever medicine, at intervals of two or three hours, until the disease is broken up and the horse is well. In case of Influenza, even with very threatening symptoms, the E.E., and A.A., should be given alternately, say every two hours, in doses of fifteen drops; keeping the animal well covered and in a warm stable. After all the feverish symptoms have disappeared, only the E.E., will be required, and the intervals between the doses may be prolonged as the animal improves. In case the discharge from the nose is profuse or thick and excoriating, or when the sore throat is present, or predominates, C.C., is better than the E.E., and may be given alone, or better, in alternation with A.A.

When the *legs become swelled*, with *scanty urine*, H.H., should be interposed, either alone or in alternation with C.C., at the same intervals and doses, and this may be continued to the conclusion of the case, either alone or in alternation with the E.E.

Influenza—Pink Eye—Horse Distemper

This disease is well known among horse dealers, and in the stables of all our large cities. It is not so often found in the open country, but cases occur where green or young horses are taken from pasture and subjected to the closer atmosphere and changed diet of a warm stable. It is generally found among green horses who have been brought from the country to our large cities for sale or use, and quite a large proportion of all such horses are more or less seriously affected by it. The disease is really a Catarrhal Influenza, whose symptoms are variously modified and only possibly received the now generally

accepted name of PINK EYE, from a frequent appearance of the eye in the earlier stages of the malady. The supposed causes have been sufficiently above hinted.

SYMPTOMS.—There is a wide diversity in the symptoms, but the more common manifestations are as follows: The horse is first observed to be *dumpish,* dull and disinclined to move, or moving clumsily, and looks as if he had been sick; the vessels of the eye are distended, turgid, the inner lid and corners being unnaturally red (whence, probably, the name), the lids become swollen, the animal shrinks from the light and tears trickle over the eyelid, and lumps of purulent matter occasionally gum up or fill the angles. The head seems heavy and hangs down, or he rests it upon the manger. First one hind leg and then the other swells and becomes infiltrated with fluid, extending from the fetlock up and filling the sheath, and often along under the belly with an immense infiltration of fluid. This swelling is considered characteristic, comes on suddenly, affects the whole limb, groin and sheath. The hair from the first looks unhealthy, and has a rough feeling; the ears, nose and limbs are cold or wet, according to the stage of the disease. The appetite is poor from the first, and an attempt to swallow shows that the throat is sore; the fauces will be found inflamed, the tongue is foul, thickly coated, and saliva runs freely, though in some cases the mouth is dry and feverish; the dung is voided in small quantities, as all the functions seem torpid. In some cases the glands of the neck become involved, tenderness and swelling is found on examination, and this swelling may soften and terminate in an abscess under the jaw. There is not unfrequently a cough. After a few days, a discharge from the nose sets in, which is considered a favorable crisis.

TREATMENT.—The patient should have the benefit of a pure atmosphere—the more elevated, pure and uncontaminated, the better to arrest blood deterioration—and be covered according to the temperature of the stable and season. The limbs may be rubbed and clothed if cold,

but not rubbed if they are hot and feverish. In the febrile stage, the natural covering is sufficient. Fat horses need but trifling food, and bran mashes, scalded spout feed, or green food in moderation are best until the turn of the disease.

Give with the first indication of the disease, the A.A., which repeat at intervals of three hours, in doses of fifteen drops. This may be continued one, two or more days, so long as the pulse is quick, mouth hot, or general fever, or swelled, reddish eyes. When, however, *the throat* is found to be sore, *glands* under the jaws *swelled or tender* on pressure, or there is a discharge from the nose, the C.C., is more appropriate, and should be substituted for the A.A., and the same doses given at the same intervals. If, however, there is yet with the above fever and heat, the two remedies may be given alternately—first A.A., then C.C, at intervals of three hours between the doses.

After the *legs* and *sheath* have begun to swell, the H.H., is in order, and should be given to rouse into activity the urinary secretion, and so reduce the swelling. Give then the H.H., every three hours, in alternation with the C.C., and so continue until the disease is arrested and the patient is convalescent. Too great care cannot be exercised when the legs are swelled, to *let the horse stand*, not to move or exercise the patient, as the movement or exercise while the legs are swelled or hot, invariably aggravates the difficulty, and may cause it to extend to the lungs or other important organs. Take the feed away, or keep the feed very low, no grain, only a bran-mash, or pick at a little hay, and let the horse stand, and the swelling will disappear with the use of the medicines mentioned. If from cold or exposure, or an extention of the morbid process, the *lungs should become involved* and Pneumonia be present, the disease will require to be treated by the A.A., and E.E., as directed for that disease, which see.

Any weakness, or loss of appetite or condition, **remain-**

ing as a sequel of the disease, will be removed by the use of J.K., giving fifteen drops three times a day.

Cough

Cough is so well known as to require no description. It is in almost all cases a mere symptom of some disease or morbid condition of the air passages, such as a cold, bronchitis, catarrh, or other more serious affection of the chest, upon the cure of which it disappears. In some cases, however, this affection is so slight as to occasion only cough as a symptom of its existence, and the cough may be said to be idiopathic. Continued cough predisposes to inflammation, yet some horses have a slight cough for years without being otherwise unwell. Other coughs are connected with thick wind, broken wind, glanders, worms and indigestion.

TREATMENT.—For chronic coughs fifteen drops of E.E., morning and night. In complicated or recent cases, the Remedy may be given four times per day. Sometimes the A.A., is more efficient, even when no fever or heat is apparent. For catarrhal coughs, give C.C., either alone or in alternation with A.A.

Heaves, Broken Wind, Thick Wind, Whistles

These are merely varieties of nearly one and the same pathological condition, and the distinctions lead to no practical result in my method of treatment.

THICK WIND is generally the result of an imperfectly cured bronchitis or pneumonia, leaving either the mucous membrane of the bronchia permanently thickened, or some portions of the lung more or less solidified, thus impairing its capacity and diminishing or destroying its elasticity. Hence, the horse when exercised, especially up hill, breathes short, hurriedly, and more laboriously than in health. This causes much distress, the horse expands his nostrils, heaves, pants and breathes with difficulty.

Broken Wind is the result of *emphysema* of the lungs, that is, the minute air-cells in certain portions of the lungs become dilated, lose their elasticity or power of contraction, and breaking one into another, form variously-sized sacks of air, the entrance to which becomes closed, so that this air remains resident in the lungs and so far destroys its use. Spasm of the air-tubes acts in a similar manner, hence it may come and go, but the former condition is more or less permanent. Spasm, or disease of the midriff, is frequently connected with it. The usual symptoms are: the flanks are slowly drawn up until they have a tucked-up appearance, when they suddenly fall down. The act of forcing the air *from the lungs* is far more difficult, and requires longer time than to *inspire* or draw it in. There is also a short, weak, wheezing cough, rough, dry coat; greediness for food, yet the animal is thin and looks poor; the belly is swelled with wind; oats often pass unchanged from the bowels.

Treatment.—Some cases of broken and thick wind cannot be cured, as they depend upon organic changes in the structure of the lungs, themselves incurable, yet all can be benefited by the persistent use of the proper remedies, and proper attention to food and work.

In all cases of this disease, of whatever variety, if recent or extensive, give fifteen drops of E.E., noon and at night, and the same of A.A., each morning. In old, long-standing cases, give fifteen drops of the A.A., every morning, and the same of E.E., at night, continuing the treatment with perserverance.

Food.—As the animal suffers from want of space in the chest, so the distension of the stomach with an undue quantity of food tends much to increase the difficulty. Hence the most condensed form of food is best, plenty of oats and little hay, but no chaff, straw, or bloating feed, water in moderate quantities, but never to repletion until the day's work is over. Green food, carrots especially, are always useful. They are readily digested, and are peculiarly beneficial to the respiratory organs. On the

contrary, bloating, flatulent, poor feed, will tend to increase, and may even occasion, broken wind. The horse should not be worked soon after a full meal.

Bronchitis

From exposure to wet and cold; sudden changes of weather; turning the horse into a cold, wet place, or bringing him from grass to a warm stable; standing in a draft of cold air, or washing the warm, sweating skin and not drying it afterwards, an inflammation of the bronchial tubes and minute air-cells takes place meriting the name of Bronchitis.

Symptoms.—The disease generally begins with a slight cough, quick breathing, sore throat, low spirits, dislike of food, slight discharge from the nostrils, pain of the throat when pinched, and some difficulty of swallowing. In some cases, it comes on suddenly with shaking; the legs, ears and muzzle are at one time hot and at another cold; the skin is rough and staring; the head hung down; mouth hot; the animal remains standing, and does not wish to move; pulse is full and quick; the cough short, frequent, and irritating; the breathing quick and difficult; the eyes and nose red, and rattles are heard in the windpipe at the breast. A profuse discharge of matter from the nostrils indicates the period from which improvement commences.

Treatment.—Give fifteen drops of A.A., and E.E., alternately every three hours, beginning with A.A. After a day or two, as the animal improves, the intervals between the doses may be prolonged to four or six hours. Keep the animal well covered and protected until recovery takes place. After the feverish symptoms have disappeared the E.E., may be relied upon.

Stabling and Food.—In all cases of serious disease of the lungs or air-passages, the horse should be placed in a large, roomy stable or stall, into which the fresh air may freely come, but all damp draughts of air excluded; all dung, damp and dirty straw carefully removed; spread

clean straw on the floor; blanket him according to the season, the state of the weather, and skin; hand-rub and flannel-bandage the legs every night and morning, or oftener if necessary.

For food, bran mashes, gruel, and tempered water only; when recovering, malt or bran mashes, boiled oats, turnips, carrots, and green food, if in season.

Inflammation of the Larynx, Laryngitis

The larynx is the upper portion of the windpipe, and inflammation of it sometimes occurs and is very dangerous. It is not often unmixed, but is generally accompanied with, or is an extension of, cold or bronchitis, and its causes are the same.

It is sometimes a dangerous disease, and may kill by suffocation or degenerate into bronchitis, or pneumonia. It is recognized by the difficulty of respiration, WHICH IS LOUD AND HEARD AT A DISTANCE.

The outside of the throat is hot, painful and swelled; swallowing is sometimes difficult, and the fluid even may return by the nose; the breathing is short and difficult, and when the air is drawn into the lungs, a rough, harsh sound is heard in the larynx; the cough, at first short and hard, becomes more hoarse and feeble, and occurs in fits, especially during an attempt to swallow; the pulse is quick, hard and full, and skin hot. As the disease advances the breathing becomes more difficult, and is attended with a rasping, crowing sound, the neck is straightened and held stiffly, the head raised and larynx drawn towards the breast, the nostrils are widened, the nose lead colored, the eyes red, skin damp with sweat, the pulse becomes weak and irregular, and at last from the increasing narrowness of the windpipe, the horse actually dies for want of breath.

TREATMENT.—The treatment is by no means difficult or complicated. Give fifteen drops of A.A., every hour, during the violence of the disease, and until the difficult breathing has abated and the animal becomes compara-

tively easy. Then the intervals may be prolonged to two and then to three hours, or more, until entire relief is obtained. If a cough remains, the E.E. may be given in alternation, with the A.A.

Should the windpipe be very sore to the touch outside, it may be occasionally bathed with HUMPHREYS' MARVEL WITCH HAZEL with advantage.

Nasal Gleet

This is the term applied to an old, long-standing, running from the nose. It arises from a morbid condition of the lining membrane of the nose, and is often the result of a badly treated or neglected cold, especially in old, worn out horses, and is similar to catarrh in the human species. Sometimes a diseased tooth in the upper jaw may give rise to a similar discharge, but this is not a true gleet. An almost incredible quantity of thickened mucous of different colors sometimes passes, if the horse is at grass, almost as green as the food on which he lives; or if he be stabled, white, straw-colored, brown, or even bloody, and sometimes evidently mingled with matter or pus; and either constantly running, or snorted out in masses many times in the day. Sometimes the discharge comes only from one nostril, at other times both nostrils are affected; in some cases the glands under the jaw are enlarged, in other cases no enlargement can be discovered; perhaps after the discharge has been very copious for some time it suddenly stops, and the animal remains free from any discharge for several weeks, when it comes on again as bad as ever; generally speaking, exercise increases the discharge. Horses affected with this disease have been known to continue free from any discharge for six or eight weeks, whilst they have continued to rest; they have been taken to work, and in a day or two the discharge has returned as bad as before.

SYMPTOMS.—The discharge is yellowish or like cream and in some cases greenish. It may be discharged in clots, or of some thickness, constantly flowing, or snorted

out in quantities; it may come from both nostrils, but generally only from the left. The glands under the left jaw are often fixed, hard, and painful. The membrane of the nose has a lead color. The discharge may stop for a time, and then come on again, more profuse than before. After continuing a long time, the animal becomes thin and poor, and may finally die.

Treatment.—Give fifteen drops of C.C., three times per day. It will be found quite sufficient to entirely control and finally arrest it in recent cases, and will not fail to benefit even the most inveterate.

Pleurisy, Pneumonia, Inflammation of the Chest

The pleura is the delicate serous membrane, covering the lungs with one surface, and lining the cavity of the chest with the other. Systematic writers treat of the inflammation of this membrane, Pleurisy, and that of the substance of the lungs, Pneumonia, separately. But as this rarely occurs in fact, and leads to no practical result in the treatment, and indeed can be rarely detected before death, I prefer the more practical course of treating them together. An inflammation of the lungs rarely or never remains so, but eventually involves the pleura more or less, and so an inflammation of the pleura always involves more or less extensively, the pulmonary substance.

Causes.—Catarrh, Influenza, Cold, or bronchial irritation may, either of them, terminate in this disease if neglected, or from fresh exposure. A sudden transition from heat to cold; change from a warm stable to a colder one; neglect of the usual blanketing, or even of other comforts; hard and long riding against a cold wind in snowy weather; loitering in an exposed, bleak place, when the horse is fatigued and warm, without covering. It sometimes occurs when horses are suddenly turned out to grass, or when they have been taken up and turned into a very warm stable. Injuries, contusion, rupture, or great violence done to the chest, is quite sure to be followed by Pleurisy.

Symptoms.—For conveniences sake, we will indicate the symptoms of these two branches of the disease separately. Pleurisy invariably commences with shaking all over, followed by a hot, dry mouth, white coated tongue, red nose and eyes, low spirits, want of appetite, anxious look, and hard, quick, wiry pulse. The act of drawing the air *into the lungs* is short, and stops, or is cut off at a certain point, at which time the pain is felt; the act of forcing the air *from the lungs* is full and slow. The pain is increased by coughing and taking full breath which the horse will do if suddenly moved or frightened. If the inflamed side is pressed upon, he gives forth a sound like a grunt; the cough is short; the horse remains standing; the skin on the inflamed side is thrown into folds, and twitches are occasionally seen at the same place. The painfulness of the spaces between the ribs when pressed upon, is quite characteristic, and often exists to an intense degree. The horse shrinks from it with a low grunt, and tries to get away. The skin about the sides of the nostrils and at the ends of the mouth is wrinkled. The neck is lengthened, and nose thrust forward; the horse stands in a crouching, manner, and seems uneasy, but does not move. As the disease advances, the pulse becomes more frequent, and afterwards smaller, until it can scarcely be felt; the breathing becomes quicker and more painful and catching, when the air is drawn into the lungs. Then by degrees, no catch is seen or grunt heard, the twitches are not observed, cold, clammy sweats break out over the body, the horse appears dull and stupid, and death closes the scene.

The pleura, like all serous membranes, has a strong tendency to effusion, or exudation of fluid, during an inflammatory action, and in the course of the disease, this effusion, consisting of yellowish serum, is exuded, in quantities varying from a few ounces to a bucket full. It occurs in all severe cases, and the fluid either is again absorbed, if in small quantity, or is the immediate cause of death, if in very large quantity, or a lesser amount may

remain for a long time, impeding respiration, and forming an empyema or dropsy of the chest. When it exists, the breathing is always labored, and there is *œdema* or tumid swelling of some external part, generally the abdomen, chest, or point of the breast.

By listening with the ear against the chest, the progress of the effusion may be traced from below upward. Above it will be heard the loud crackling respiration and grating peculiar to the disease; below, the dullness and stillness of the lung enveloped in fluid, the absence of sound, marks the line of the accumulated fluid, its increase and diminution.

In Pneumonia, the symptoms differ from Pleurisy, yet the difference manifests itself in this, that in *Pleurisy* there is more pain, and in *Pneumonia* more difficult breathing. Pneumonia is often a consequence of a cold, bronchitis, or the termination of some disease of the air-passages, and may begin with symptoms of a cold—rough coat, want of appetite, low spirits, etc. In other cases, it begins with a shivering chill; the legs, ears and skin are cold; the coat is rough; the nose pale and dry; quick pulse, which afterwards becomes frequent and full; breathing at first quick, then panting and heaving; the skin now becomes hot, except *the legs, which remain very cold.* This is a *characteristic symptom and will never deceive;* the nose and eyes are red; mouth hot and dry; the eyes have a yellowish color, and the horse looks uneasy and restless.

As the disease extends, the breathing becomes more difficult, and is attended with heaving of the flanks; the nostrils are much widened; the nose and head held out; the neck lenghtened; the fore-legs are fixed in one place, and spread apart; the nose and eyes have a dark blueish color; the face looks anxious and disturbed; *the legs* and ears are *very cold;* the legs seem fine, and the hair upon them glossy; the cough is more frequent, hard and painful; the horse seems drowsy; there is no appetite; the dung is hard and covered with slime, and the urine high-colored and scanty.

In the last stage, the pulse is small, weak, and can scarcely be felt, the breathing is quicker and more difficult; the breath is very hot; the eyes and nose are lead-colored; the skin is cold, and clammy sweat breaks out upon it here and there; the mouth is cold; the tongue is coated; the teeth are ground every now and then, and twitches are occasionally seen. The eyes become more and more heavy, glassy and dim; the strength becomes less and less; the horse leans against the stall or manger, or wanders around; he staggers and falls; tries to rise, but cannot; groans, struggles and dies.

As an improvement takes place, the horse appears more natural, warmth returns to his extremities, his breathing is more free, pulse softer, fuller and less frequent, cough easier, *and he lies down* quietly, and without uneasiness. These good symptoms rarely or never deceive.

Placing the ear against the ribs, upon various parts of the chest, we may learn with some practice to distinguish the progress of inflammation. In the healthy lung, the air passes in with a slight, rustling murmer, quite characteristic, and which, once heard, will always be recognized. As the lung becomes inflamed, "crepitation" takes place and we hear a sound, slightly cracking, like that made by salt thrown into the fire, or by rubbing the hair between the fingers close to the ear. As by degrees the lung becomes more intensely inflamed, it is more and more impervious to the air, until it becomes "hepatized" or solid, and gives no sound, and no resonance when percussed, or struck upon. These changes are interesting, and afford to the practised ear clear indications of the state and progress of the disease.

TREATMENT.—Give fifteen drops of A.A., every two hours, for the first twenty-four hours. After that, give the E.E., alternately with the A.A., at intervals of two or three hours between the doses.

Continue this treatment steadily and uniformly by night as well as by day, if the attack is severe, giving no other medicine, and making no deviation. After a day or two,

with the remission of the more violent symptoms, the A.A. may be omitted entirely, and only the E.E. given, as also after the disease has turned, and during convalescence. After the horse has commenced to improve, a dose of E.E., every four hours during the day, will be sufficient. The treatment is the same whether symptoms of Pleurisy or Pneumonia predominate.

Stabling and food as under Bronchitis.

We should bear in mind that in all severe cases of this disease, resolution does not take place under four days, and if an improvement takes place in one, two or three days, we should be satisfied. Rare indeed will be the cases that do not terminate favorably under Humphreys' Homeopathic practice, carefully applied.

CHAPTER VIII.—Part I.

DISEASES OF THE DIGESTIVE ORGANS

Dentition or Difficult Teething

The cutting or shedding of the teeth, and especially of the tushes, is sometimes attended with considerable disorder of the body. The animal either will not eat his food, or he has pain and difficulty in chewing it; the body grows thin; bowels are out of order; humors may break out in the skin, and there may be cough and slight fever present. The gum is hot, painful and swelled.

Treatment.—Give fifteen drops of A.A., three times per day. This soon relieves the feverish irritation, and the tooth usually makes its way quietly to the surface. Nicking the gum directly over the tooth in the form of a cross is sometimes beneficial. If teeth are very slow in coming, showing an evident deficiency of bony deposit, an oyster shell burned to lime, and broken or ground in his feed, will promote the growth and production of bone, and be of service.

Diseased or Irregular Teeth

Sometimes the teeth of a horse present irregularities. Some of the teeth are too long, or become ragged. As a consequence, the tongue or cheeks are wounded, and the horse eats imperfectly, has pain, drops or "quids" his food. Whenever this condition is found, if the difficulty does not mend itself, the long teeth should be extracted if loose, or be filed down, and the points of the ragged teeth smoothed off.

Decayed teeth produce similar symptoms. In addition, a bad smell exudes from the mouth; stringy saliva flows away in large quantities, and the eyes may be inflamed. If allowed to remain, the fang may become diseased, the socket and gum inflame, an abscess form, and a portion of the jaw-bone may die. If in the upper jaw, the matter

may burst into the nose and be discharged. It is of bad smell and color, and has been mistaken for nasal gleet and glanders.

Examine carefully with the finger, and by feeling along the jaw, see if there is any swelling or indentation, or if there is any old stub or loosened tooth, a milk tooth that has been pushed one side, or down, or is loose, making the gum inflamed or painful and preventing the animal from properly eating his food. If so, remove the stub or loose tooth, or file off the ragged portion, so that the mouth may become sound and healthy. Sometimes a thick, unhealthy discharge from the nostrils has been mistaken for glanders, when the real difficulty was from diseased teeth.

TREATMENT.—Draw out the diseased tooth, and give fifteen drops of A.A., each morning. and the same dose of C.C., at night, for several days.

Lampas

Occasionally the bars of the mouth swell and rise to a level with, and even beyond, the teeth, occasioning soreness, pain, and difficulty of eating. It is most common in young horses, in connection with the cutting and shedding of teeth, from congestion and the extension of the inflammation of the gums during this process. It also occurs in old horses; for the growth of teeth in horses continues during life. Derangement of stomach, or worms, is sometimes connected with it.

TREATMENT.—Give fifteen drops of A.A., two or three times per day. This will soon relieve the irritation and swelling. Should there be any derangement of the digestive organs, a few doses of J.K., given morning and night, will promptly relieve not only the derangement of the stomach, but the Lampas also.

Swelling or soreness of the gums will be promptly relieved by giving fifteen drops of J.K., daily, or even, morning and night.

The searing of the bars with a hot iron, as is sometimes practiced by cruel and ignorant smith's, cannot be too

strongly condemned. It tortures the horse to no purpose, renders the mouth callous, and destroys the delicacy and sensibility of a part upon which all the pleasure of driving and riding consists, while it is totally unnecessary.

Crib-Biting

Much has been written about crib biting or wind sucking. It has sometimes been regarded as a vicious habit and at other times as connected with indigestion. However, there is much better basis for believing it to be a bad habit than anything else.

Horses that are worked regularly every day rarely develop it; and it is only among horses which are only used occasionally, and which stand for long hours in the stall, that we find it. Also in a stable of the latter kind if one horse starts it the others soon follow his example.

TREATMENT.—Many things have been tried, but the best results have been obtained by giving the horse plenty of regular work. If there is any disturbance of the digestive organs which has been occasioned by the wind sucking J.K. would be the proper remedy.

Loss of Appetite

Loss of appetite, or diminished appetite, is but a mere symptom of some more general affection. It is a symptom of almost every disease, and especially of every morbid condition of the digestive organs. There are cases, however, in which this seems the most prominent symptom; and the animal appears well in every other respect, save that he does not eat. The teeth should be examined, and, if needful, corrected. We should see also if the throat is sore. In general, loss of appetite will be found connected with a morbid or unhealthy condition of the digestive organs, and will yield to a few doses of J.K., fifteen drops, morning and night. This is also the appropriate remedy for defective appetite or the weakness which often remains after acute disease.

Ill Condition, Indigestion

In consequence of over-feeding, bad food, suddenly changing the kind of food, working the horse too soon after eating too much food, or bad and uneven teeth, which prevent the horse from chewing his food well, the following condition presents itself:

Symptoms.—The skin has the condition known as hide-bound; the horse sweats easily; he is weak, and cannot work so long or with so much spirit as in health; he is thin and does not fatten; his tongue is foul; mouth slimy; the dung is dry, mixed with undigested oats, or it is slimy or bad-smelling; the water is variable, scanty and thick, or clear and abundant, and there is a short, frequent cough. Sometimes he eats very greedily, and at others will eat nothing placed before him, or will take one kind of food and leave another, or he likes dirty straw or his bedding better than the best oats or hay, or, in some instances, his morbid appetite leads him to lick the wall or eat plaster from it.

It is sometimes accompanied by dullness or dizziness (stomach staggers).

Treatment.—Correct the feeding. Give not too much, and only that most acceptable at first. Give J.K., three times per day for a week, then J.K. morning and noon, and I.I., at night.

Colic

This is one of the most common diseases of the horse. The passage of food along the bowels is effected by the alternate contraction and relaxation of the muscular coat of the intestines. Hence it is easy to perceive that flatulent or irritating food, food in too large quantities, large quantities of green food that produce much gas, masses of hard, dry dung, or sudden chill upon the warm skin, all may produce irregular contraction of the intestines, and hence produce pain and colic. Tumors, worms and stones also produce the same result.

Symptoms.—In colic the attack begins suddenly. The animal is uneasy; shifts his position, paws or stamps the

ground, kicks his belly with his hind feet, looks frequently at his flanks, groans, falls upon the ground and rolls about violently, or lies on his back, in which posture he remains for a short time, seeming quiet and free from pain. Soon, however, the pain comes on again, even with symptoms of greater intensity than before. He throws himself widely about, careless of the injuries he receives during these moments of agony and tossing. He grinds his teeth, bites the manger, and looks towards his flanks with a wild, anxious expression. If he improves, the paroxysms become less frequent and less violent, and free intervals longer, until entire relief; or if worse, the pain becomes more and more intense, paroxysms more frequent, until there is no free intervals; inflammation results, the ears and legs become cold, pulse small and wiry, and the animal dies from the results of the inflammation.

Many of the symptoms of colic are similar to those of inflammation of the bowels, and as the latter is by far the most formidable disease, we will endeavor to distinguish them, so as to avoid mistake.

The attack of colic is sudden, while that of inflammation is more gradual. In colic, the pulse is rarely quickened, and never so early in the disease, while in inflammation it is very quick and small even from the first.

In colic, the legs and ears are of the natural temperature. In inflammation, they are cold. In colic, there is relief from rubbing the bowels, and from motion. In Inflammation, the bowels are very tender, and motion vastly augments the pain. In colic, there are intervals of rest, while in inflammation there is constant pain. In colic, the strength is scarcely affected, while in inflammation there is great and rapidly increasing weakness.

Attention to these peculiarities will enable one to distinguish between the two diseases, and to avoid error in the treatment.

TREATMENT.—Give fifteen drops of F.F., on the tongue, and repeat the dose every half, or even quarter of an hour,

until relieved, omitting the medicine altogether, or giving it at longer intervals as soon as the amendment is perceived. We have in the F.F., a remedy which rarely fails to arrest this disease.

If, at the commencement or during the progress of the disease, fever and inflammatory symptoms should also exist, then alternate the A.A., with the F.F., at the intervals mentioned.

If the attack has clearly been occasioned by an *overfeed,* or by bad, heavy, indigestible food, it will be best to alternate the J.K., with F.F., at the intervals directed.

The colic not unfrequently comes from the kidneys, which may be suspected by the horse making frequent attempts at staling, or his passing scanty, thick or bloody urine. In these cases, give fifteen drops of H.H., every half hour, alone or in alternation, with the A.A.

Should there be suspicion that Bots or Worms are an exciting cause, the D.D., may be alternated with F.F., fifteen drops every half hour or hour.

N. B.—In cases of colic the greatest danger and the worst possible fault is injudicious haste and giving *too many and improper things.* Thousands of horses are killed by the drugs given to cure colic where one dies of the disease itself. Give only HUMPHREYS' REMEDIES, and at the intervals as directed, however urgent as the case may appear. Your success and safety are in following the directions implicitly.

Tympanitis, Drum-Belly, or Wind-Colic

This is merely a form of colic characterized by an enormous production of flatulence. The pain is sharper, the animal more furious and violent than in ordinary colic; the belly on both sides is more or less swelled with wind; there are rumbling noises and frequent discharges of wind. It is usually the result of eating or gorging with green, flatulent food.

TREATMENT.—Give fifteen drops of F.F., every half hour, or even more frequently if the case is very urgent. It will soon be relieved. Afterwards, a few doses of J.K., fifteen drops morning and night, will be of benefit.

Enteritis, Inflammation of the Bowels, Red Colic

There are two varieties of this disease, one in which the external coats of the intestines are inflamed, and attended with constipation, and the other, in which there is irritation of the internal mucous surface of the intestines, and attended with purging.

The most frequent CAUSE is sudden cold upon a warm, perspiring skin, or even a cold drink when very hot; over-fed horses, subjected to long and severe exercise, are most liable to it; stones and hard dung in the bowels; and especially colic badly treated, and drugged with all sorts of medicines, often terminates in Inflammation of the Bowels.

The symptoms of this disease are very like those of colic, only in the latter disease there are intervals of rest, or cessation of pain, and there is little or no alteration of the pulse; whilst in inflammation of the bowels there is *no abatement of the pain*, but the animal is continually lying down and rolling about, getting up and then droping down suddenly. The pulse is very much quickened, small and hard; the artery appears like a cord, under the finger; the extremities are cold; the animal frequently turns his head toward the flanks; the abdomen is hard and tender; as the disease advances, the breathing becomes accelerated, the eyes staring and wild, the pulse imperceptible at the jaw; a cold sweat breaks out over the whole body. This state continues for some time, when suddenly the animal appears to get better, he gets up, and stands quietly; the eyes lose their lustre, the extremities become deadly cold, there is a tremulous agitation of the muscles, particularly the fore part of the body; after a short time, he begins to totter and stagger about, and soon falls down headlong, and dies.

SYMPTOMS.—The disease begins, in most cases, with dullness, heavy eyes, staring coat, restlessness and moving about from one place to another; the pulse and

breathing are both quickened; no appetite. Some cases begin with colic, others with shivering. The animal paws, kicks, and rolls about in the most violent manner at first; often strains and tries to pass water, but either none or only a few drops come away; the pain is most intense, and does not cease for an instant, and is increased by pressure and moving about; the belly is hot, tucked up, and hard, unless there is wind in the bowels, when it will be more or less swelled; the bowels are very costive, though small, hard, dry masses may be passed, except in cases where the internal surface, or mucous membrane, is the seat of disease, in which case small, purging, bloody stools are frequently passed; the legs and ears are intensely cold; the pulse small and hard; and sweat in the latter stages breaks out all over. Still further on, the pulse becomes smaller and weaker, until it can scarcely be felt; the breathing is quick, irregular, and attended with sighs; the skin is covered with a cold, clammy sweat; the eyes seem to have lost their power of seeing, he becomes very weak; and trembles all over; convulsions come on, and death soon follows.

Consider carefully the distinctions between Colic and inflammation, as given under the article on Colic.

Treatment.—As early as possible, give fifteen drops of A.A., and repeat the doses every half hour. After the animal is somewhat relieved, continue the medicine at longer intervals. If not better in two hours, the F.F., may be alternated with the A.A., at the intervals mentioned. This will be especially indicated if there should be frequent purging small stools, blood-stained or otherwise. After the inflammatory symptoms have subsided, give a dose or two of the J.K.

N.B.—As constipation exists in inflammation of the bowels, many persons suppose it to be the cause of the disease, and resort to the most desperate means to remove it. This is all wrong. Remove the inflammation, and the bowels will then move of themselves, while the balls and cathartics administered during the inflammation will only increase the difficulty.

Peritonitis, Inflammation of the Peritoneum

The delicate membrane lining the abdominal cavity, and covering the parts within it, is termed the peritoneum, and is occasionally the subject of inflammation.

It not unfrequently follows the gelding of the horse, especially if he is too soon afterwards turned out to grass, or during cold and wet weather. Exposure to cold standing in draughts of air, or drinking cold water may produce it; and it follows a stab in the belly or a rupture of some of the viscera, and the flow of the contents into the abdomen.

Symptoms.—A few days after cutting the colt, the yard and sheath will be found swelled and painful; little or no matter flows from the cut; the animal is restless and uneasy; the body is painful when pressed against, and is swelled with watery fluid; the legs are cold; the bowels are bound; the skin is rough and dry; no food is eaten; if loose, he rests his hind-quarters on the side of the stall; the swelling in the breast, legs and sheath increases; the breathing becomes quick and painful; the pulse hard, quick, and by degrees small and weak. These gradually become worse, until the animal dies.

There is a slow form of this disease, as follows: poor appetite; low spirits; uneasiness; occasional pawing the ground; looking at the belly and groaning; belly painful when pressed upon, and tucked up; quick breathing; small, weak pulse; bound bowels; awkward way of walking with the hind legs; mouth dry; and bad smelling; body thin; coat staring and unthrifty; urine scanty; weakness. As the disease advances, the abdomen fills with a watery fluid, and the disease terminates as dropsy.

Treatment.—From the commencement, the A.A., is the most important remedy, and may be given, fifteen drops, every two hours, during the more urgent symptoms, and then at longer intervals for the acute form.

If there should be purging, alternate the F.F. with the A.A., at intervals of two hours, and then less frequently as the disease improves.

In the slow form of the disease, the alternate use of J.K. and F.F., four times per day, will be found most effectual in preventing a termination in dropsy, and in restoring the animal.

Jaundice, Yellows, Diseased Liver

Young horses rarely have diseased livers, but at the age of eight or nine years, the disease is more common, and, in some cases, quite suddenly, the covering of the liver gives way, and symptoms of fatal peritonitis appear.

SYMPTOMS.—Jaundice, or Yellows, is more frequent, and is marked thus: The animal is dull, sleepy, and unwilling to move; he eats little or nothing; the coat stares; the urine is scanty; the dung light-colored and in lumps. The nose, tongue, eyes and mouth become yellow, from the abundance of bile in the blood. The urine is very thick, dark-colored and full of bile. The right side is painful when pressed against, and the horse looks towards it, he may be lame in the right fore-leg, or paw the ground with it. These symptoms may increase, and cough, quick breathing, and full, quick pulse, be added, which afterwards becomes quite weak and slow, and the legs very cold. He then becomes more and more dull, stupid and sleepy, staggers, falls to the ground, and dies.

TREATMENT.—Rarely will anything more be required than the J.K., of which a dose of fifteen drops may be given, four times per day.

Should there be heat, fever or inflammatory symptoms, a few doses of the A.A., will be proper, not merely for the heat and fever, but for the obstruction of the liver as well. In severe cases, these two remedies may be alternated with the most brilliant success, even when there is no fever apparent. Give fifteen drops every four hours, alternately, first A.A., next J.K., and so on.

Costiveness, Bound Bowels

This is usually a mere symptom of some other disease, upon the removal of which the costiveness disappears.

But sometimes, in consequence of dry food, deficient action of the liver, want of exercise, or a paralytic condition of the digestive organs, it may require attention.

TREATMENT.—The animal should have regular exercise, green food or bran-mashes night and morning, with but little oats, or other heating or dry food. Give fifteen drops of J.K., night and morning, and the condition will soon be corrected.

Bots and Worms

Bots in the horse, like worms in the human system, have usually a great many sins to answer for, which are really chargeable elsewhere. It is a principle in the economy of nature, that one animal should feed upon or live within another, and hence every animal, and almost every organ, also, has its peculiar parasite or inhabitant. Such parasites are rarely injurious. In an unhealthy condition of the system, they may unduly accumulate, and occasion some inconvenience, but they rarely feed upon the surface to which they are attached, but only upon the contents of the organs in which they exist.

The history of the bot, the most formidable of horse parasites, is as follows: Towards the close of autumn, the female gad-fly (octrus equi) fixes its eggs upon the hair of the horse's legs, by means of a sticky substance, exuded with the egg. By means of the horse's tongue and lips, these eggs are carried to the mouth, and so on down to the stomach, where the eggs, farther developed in the form of grubs, are attached, by means of their hooks, to the sides of the organ, while their heads remain floating in its fluids, upon which they feed. Having arrived at maturity, they are separated, pass along the intestines, and are expelled with the dung, after which they again burst their shell, and rise in the summer in the form of the gad-fly.

SYMPTOMS.—Some horses are supposed to suffer much from bots, while others, in the most perfect health, have an abundance of them. Often there are no symptoms to indicate their presence, but generally, the horse loses

flesh and strength, and can scarcely move about; he has turns of griping pains in the belly; eats and drinks greedily; the oats pass off undigested, and the dung has a bad smell. The only sure criterion of the existence of bots or worms is their presence, hanging about the anus, or mixed with the dung of the animal.

There are also the *long round worms,* similar to the common earth worm, and the *small pin-worm,* half an inch or more in length, which show at the anus, an inch or more in length, which often causes itching and uneasiness at the anus.

Treatment.—To eradicate worms or bots from the system, give fifteen drops of D.D., each night and morning, with regular and healthy feed, and the worm symptoms will soon disappear.

For Colic or belly-ache, when supposed to be from bots, give fifteen drops of the D.D., alternately with the A.A., every half hour or hour, according to the urgency of the case. A few doses will usually relieve.

In obstinate cases, when the Bots seem to be constitutional, give fifteen drops of the D.D., every morning, and the same of J.K., every night, and so continue until good health is established.

Salivation—Slavering

Many horses are subject to an increased flow of saliva from the mouth, constituting what is known as *slavering* or *driveling* from the mouth. The discharge is commonly, simply glairy slime, or at times—and especially on being driven or excited—a simple froth, dropping or being blown from the mouth. It may be caused by mercury if the horse has been dosed with the drug; is often attributed to Lobelia or Indian tobacco, if the horse only would eat it —but is more commonly the result of swelled gums, irregular or deficient teeth, and irritated or inflamed salivary glands, the result of bad digestion.

Treatment.—See that the teeth are in order, and give J.K., morning and night.

CHAPTER IX.—Part I.

DISEASES OF THE URINARY AND REPRODUCTIVE ORGANS

Nephritis, Inflammation of the Kidneys

The kidneys are not unfrequently the subject of inflammation in the horse. It may be induced by powerful or repeated diuretics, such as saltpetre, which is a most dangerous medicine, or from hard and long riding by a heavy rider, or heavy weights; or by leaping or being suddenly pulled up on his haunches, the inflammation being propagated from the lumbar muscles to the kidneys, or by exposure to cold and wet, by rain dripping upon his loins during exercise, and especially if these organs have been previously weakened.

Symptoms.—The early symptoms are those of fever, the pulse full, hard and quickened, afterward becomes small and weak; the horse looks around anxiously at his flanks; stands with his hind legs wide apart; is unwilling to lie down; straddles as he walks; expresses pain in turning; the back is somewhat arched; he shrinks when the loins are pressed upon, and there is some degree of heat felt there. The urine is voided in small quantities; frequently is high-colored, and sometimes bloody; and there is frequent and often violent effort and straining, but the discharge is very small, sometimes suppressed.

Treatment.—Give fifteen drops of H.H., and repeat every two hours. Should there be very high fever, great heat, etc., the A.A., may be alternated with it, giving fifteen drops every intermediate hour in urgent cases, but in general the H.H., will be quite sufficient, and should be continued at prolonged intervals to entire recovery. But a few doses will be required to show us the great value and efficacy of the remedy.

Cistitis, Inflammation of the Bladder

This disease is usually the result of giving diuretics, such as saltpetre, cantharides, or similar irritating medicines. It may also be the effect of a cold and exposure, or of a stone in the bladder, and the disease may occupy the neck of the bladder, or the organ itself. The symptoms are similar to that of Inflammation of the Kidneys; the horse makes frequent and painful attempts to stale, but passes only a few drops of water at a time. The bladder cannot retain the urine from its excessive irritability, so that the attempt to void it is constantly going on. The urine may be clear, or mixed with mucus, or stained with blood.

THE TREATMENT is the same as for Inflammation of the Kidneys, the remedy for that disease, H.H., being given every two hours, in doses of fifteen drops, or less frequently, according to the urgency of the case. In some cases the A.A., may be given in alternation, as for Inflammation of the Kidneys; but in general, the remedy first mentioned H.H., will be found every way efficient and available.

Hematuria, or Bloody Urine

This is usually a mere symptom of some other disease. Blows, or a violent strain of the loins, some kinds of irritating plants, stones in the kidneys or bladder; ulceration of the bladder; Spanish flies given internally or administered as a blister—may either of them produce bloody urine as a symptom.

The symptoms are: discharge of urine, mixed more or less with blood, or containing clots. When the blood is caused by some disease of the kidney, there is usually pain in walking, straddling of the hind legs, and an awkward way of walking. If the blood comes from the kidneys, it will be intimately mixed with the urine; but if from the bladder, it will pass off with the last of the urine rather than the first.

TREATMENT.—Fifteen drops of the H.H., given three times per day, will generally promptly relieve. If dependent upon organic disease, more time may be required, but the remedy is the same. If it fails, give a large spoonful of HUMPHREYS' MARVEL WITCH HAZEL, poured upon the tongue three times per day.

Retention of Urine

From holding the urine too long, cramp or spasm of the neck of the bladder, stone in the bladder, or other disease, which prevents the bladder contracting upon its contents, there may be retention, and the animal unable to void his urine.

The symptoms are similar to those in colic, but characterized, however, by the horse putting himself in the attitude of staling, and straining with great force, as in the act of passing water, without any, or very little, being discharged. This symptom may be present in cases of gripes or colic, the bladder acting in sympathy with the cramped intestine. All doubt may be removed by inserting the hand into the rectum, when the bladder, if full, will be found large, tense and full of water.

This disease may be recognized by the animal frequently putting himself in a position to pass urine, but without succeeding, or at most only a few drops are voided; there is also great restlessness, shifting from place to place, moaning, looking at the flanks, pawing with the fore-feet.

TREATMENT.—A few doses, fifteen drops each, of the H.H., given at intervals of two hours, will usually relax the spasm and afford entire relief.

When it is the result of a stone in the bladder, the movements of the horse may for a time dislodge it, but an entire cure will only be effected by an operation, for which a veterinary surgeon must be consulted.

Scanty Urine

This is a mere symptom of some other disease, such as fever, inflammation, or other morbid condition, or it

may occur naturally, if there is diarrhea, loose bowels, or purging, and it always occurs in warm weather, when a horse is severely worked, from the large quantity of fluid exhaled from the skin and lungs.

A few doses, fifteen drops each, of the H.H., will soon correct the condition, as far as the health of the animal requires. The J.K., for indigestion is likewise efficient.

Diuresis, too Profuse Staling

In consequence of bad food, such as kiln-dried oats, mow-burnt hay, or of such medicines as nitre, or other diuretics, a horse may have an excessive flow of urine.

The symptoms are: The horse does not eat much, sweats easily, is soon tired, the bowels are costive, skin dry and coat rough, tongue white and there is great thirst. The water is quite clear and milky, passed often, and in large quantities. As the disease advances, the horse eats little, he gets thinner and weaker every day, breath often offensive; the dung is hard, lumpy and covered with slime; the hair stands on end, and the flow of urine becomes enormous. If not cured, death ensues.

TREATMENT.—The food must be changed, and none but the best given. Change of food is always of service under such circumstances.

Give fifteen drops of J.K., four times per day. This will often be efficient.

DIABETES MELLITIS, which is a rare disease in the horse should not be confounded with DIURESIS, which is manifested by an *increased* flow of urine. In Diabetes Mellitis the water is clear or greenish, limpid, *sweetish*, and soon accompanied with great debility and loss of flesh, usually ending fatally.

Parturition in Mares

Rarely requires either manual or medicinal assistance. A dose of A.A., given in the earlier stages of labor often quiets the restlessness and allays the wandering pains, and this conduces to the greater regularity of the process.

If the labor becomes tedious or delays, a dose of G.G., repeated if necessary every two hours, will relax the parts and assist the expulsion pains.

Self-Abuse, Seminal Emissions

A very common habit among race horses if self-abuse. As soon as young horses are stabled, from idleness, over-excitement or urinary irritation, they may begin to masturbate, and it very often increases, impairing their strength, and rendering them worthless and uncertain foal-getters, or demanding castration. The phenomena are well-known and do not require a particular description.

The common practice with horsemen or trainers is to put on them what is called a "net," an apron armed with sharp pointed tacks, so when the yard is protruded, the tacks prick him, and he draws it in. But many horses, with a little practice, become so expert that they can avoid striking the apron, and in most cases it seems rather to increase than diminish the habit.

The usual Veterinary Surgeons advise camphor, which, if given is sufficiently large quantities to diminish the habit, will notably and permanently impair the vitality and vigor of the horse.

DR. HUMPHREYS' VETERINARY REMEDIES, by *arresting* and *lessening* the *irritation* and *morbid desire, prevent the habit*, and thus, reducing the morbid desire, promote and increase the natural vigor and development of the animal.

TREATMENT.—Give fifteen drops of G.G., three times per day, or if urinary irritation is suspected use the H.H. instead. He should also have good food and plenty of regular exercise. If unable to give him exercise under saddle, he may be turned into a large pasture with pregnant mares.

Weak or Deficient Sexual Vigor; Impotence in Stallions

It not unfrequently happens that stallions of even good form and breed, and not deficient from inherited weak-

ness or vice become uncertain or partially unfitted for foal-getting. This must of necessity arise late in life from failing vitality, or deficient natural strength. But it not unfrequently happens as a result of too early severe use, a drain put upon the young at a time when nature was still building up and hardening tissue, and when the over-drain made upon the green and yet unhardened sire, was more than the nutrition could repair. And it is again liable to happen from excessive use during the healthy, vigorous age of life, and the more so, if coupled with insufficient proper nourishment.

Any or all of these causes may render a stallion uncertain, and so diminish his value and the relative value of his services. It becomes important to know what treatment will restore the feeble and uncertain, and will preserve and arrest the decay, as well as restore these waning powers.

In order to restore and invigorate the deficient or waning powers, and to sustain them under severe tax, or upon the decline life, the J.K., may be given in confidence that it will sustain, restore and keep in vigor the natural virile powers.

In cases, with only some decline in vigor, a dose of fifteen drops of J.K., given two or three times per week is sufficient. When the want of vigor is more decided, a dose, two or even three times per day may be given.

Failure to come in Heat—Sterility

Failure to breed in the mare may occur in two different forms—first impotence, in which the mare fails to come in heat, and second, true sterility, in which, although she came in heat and was bred the service proved unfruitful.

The first of these cases may be due to some malformation of the sexual organs in which case it is incurable; but it is more often due to insufficient or over-feed, or lack of exercise, or over-work, or some depressing disease.

TREATMENT.—Correct the exercise and feeding, and give G.G., every night for a week, or, if the case is urgent, a

dose morning and night, and then a dose daily until the result is manifest.

True Sterility may also be caused by malformations and be incurable, but is more often caused by other things such as a catarrhal condition of the vagina—Leucorrhea or too ardent heat, or insufficient food, or debility from disease.

The Treatment for Leucorrhea or a catarrhal condition of the organs, which may be known by a constant or frequent discharge from the vagina, give G.G., each morning and J.K., at night, and continue this for several weeks, or until she is again served.

In addition dissolve one cake of fresh compressed yeast in a pint of tepid water, then after a few hours, add another pint. Then wash the vagina well with soap and water and use the dissolved yeast as a douche, this should be done daily for several days.

Where there is an excess of excitement, too ardent or too frequent, or even constant heat, give at first, H.H., a dose morning and night, for two or three weeks, then a dose or two of G.G., and the result will usually be satisfactory.

Where there is unthriftiness or want of good condition, correct the feeding and give G.G., morning and J.K., at night.

Abortion

Abortion or premature birth may occur from three different causes:

1—Accidental Abortion.—Caused by a blow; strain; slipping on a wet floor, over-strain from pulling a heavy load, etc.

2—Enzootic Abortion.—Due to some infectious disease of the mother.

3—Contagious Abortion.—A distinct disease which causes the death and expulsion of the foetus or its expulsion in a feeble state prior to the normal period.

Symptoms of Threatened Abortion.—In the first three months of pregnancy, the appearance of a bloody, watery

or mucous discharge from the vagina. In the later months, uneasiness, swelling, heat and tenderness about the udder; secretion of milk; and straining as if in labor.

TREATMENT OF THREATENED ABORTION.—Give fifteen drops of G.G., every six hours, and the dose may be repeated two or three or more times should the threatening symptoms continue after the first or even the second dose has expended its action.

This interval should elapse between doses, as too rapid ones may even defeat the object, by over-excitement of the system, while a single dose often arrests an abortion if permitted to expand its action.

After a mare has actually aborted, it is almost impossible to tell whether it occurred from contagious abortion or from some other cause, so the safe thing to do is to act as if it had been contagious abortion.

TREATMENT OF CONTAGIOUS ABORTION.—The fetus and membranes should be burned. The premises occupied by the sick animal should be disinfected as follows: Remove all bedding and dirt possible and spray all available parts of barn with 3% formalin or 5% carbolic acid solution. Apply white wash containing 1 lb. chloride of lime to 3 gallons of whitewash, scatter quicklime on floor and gutters.

The animal which has aborted should receive daily a vaginal irrigation of two gallons of warm water containing 2% lysol until the vaginal discharge stops. The external parts about the vagina, including the hips and tail, should be washed thorougly with soap and water and then with the lysol solution as above, twice daily. This should also be done to all exposed pregnant animals in the herd, being careful not to use the same cloth, solution, bucket or attendant for the well animals that was used for the sick one.

Also give G.G., at intervals of six hours.

CHAPTER X.—PART I.

GENERAL DISEASES

Rheumatism

This is a far more common disease of the horse than has generally been supposed. It is quite common in old horses, and in younger ones that have been exposed or over-worked. Cold and damp, and exposure to draughts of cold air when heated, or during and after severe effort or work, are among the most common causes.

SYMPTOMS.—It usually begins with a shivering chill, hot skin and mouth. The horse becomes lame and stiff all over, and several joints seem affected at once, so that he cannot move from the first, or else it soon becomes confined to one joint or leg; the joint or limb becomes very hot, swelled, and exceedingly painful; the pulse is quicker at one time than another, or stops now and then for a moment or two; the breathing is quick; sweats break out, and the animal becomes weak. When the disease attacks the fore legs, farriers call it "chest-founder"; and when it attacks the loins, the back is raised and belly tucked up, and it is known as "loin-bound." Rheumatism not unfrequently shifts from one place to another, especially if the animal is exposed to wet and cold.

TREATMENT.—If there should be considerable heat and fever, as is most commonly the case, give first AA., a dose of fifteen drops, every two or three hours, until the heat has been partially subdued, or until six doses has been given. Then alternate the B.B., with the A.A., every three or four hours, a dose of fifteen drops, until the animal is restored. If a limb or joint is painful, hot and swelled, bathe it in HUMPHREYS' MARVEL WITCH HAZEL night and morning, and a flannel bandage applied to the

limb will also be of great service, in addition to the internal medicines.

If at any time a horse shows symptoms of stiffness or lameness, fifteen drops of B.B., night and morning, will soon remove it.

Chronic Rheumatism

May be regarded as a continuance of an acute attack, or as is more frequent a recurrence of it, being generally milder in character and less painful. The general circulation, as indicated by the pulse and respiration, is not much affected, and the manifestation of the disease is usually confined to some form of lameness usually affecting one limb at a time. Suddenness of the attack and change of its locality are characteristic of the disease. Often after having been apparently cured it returns after an uncertain interval or appears in another locality. Limbs and tissues that have once suffered are more liable to a recurrence, and it may be generally assumed that when a horse has once had a siege of rheumatism and again has sudden lameness and pain, that it is a return of the old disorder. Bad weather, exposure, or overwork are the most frequent occasions of a recurrence of the attack. The lameness most frequently attacks one or the other leg, or there may be a general stiffness or lameness. Not unfrequently the lumbar or loin muscles become the principal seat of the disease and the term *lumbago* or *loin-bound* is applied to it; or when the muscles or fibrous tissues of the shoulder become affected, causing lameness of the forelegs, the animal is said to have chest founder.

Treatment.—B.B., is usually the best remedy. If there is fever, heat or some lameness, alternate A.A., and B.B., a dose every two hours. In old cases, and to eradicate the disease from the system, give B.B., morning and noon, and J.K., at night, not forgetting an occasional dose of H.H., to increase the action of the kidneys.

Fever—Swamp Fever—Blood Poisoning

Fever is always a symptom of some other disease, never a disease of itself. An injury to any part of an animal, may, by sympathy, set up a fever in the rest of the body. However there are some cases where the fever is the most pronounced symptom, as in Swamp Fever and Septicemia or Blood Poisoning.

Swamp Fever or infectious Anemia is an infectious disease attacking Horses and Mules. It is characterized by high fever and loss of flesh and strength, with intervals of comparative good health, with no fever and a voracious appetite and the animal apparently getting well; only to be succeeded by another attack of fever, etc.

Treatment.—Since the disease can be readily caught by the other horses and mules, separate the sick from the well. Then give the A.A. and I.I., alternately in doses of fifteen drops, at intervals of two hours at first, and later at longer intervals as the animal improves.

Blood Poisoning or Septicemia is the poisoning of the blood by germs or their products. It occurs more or less in all infectious diseases, but particularly the infection caused by a wound.

The symptoms are fever, rapid pulse, depression and weakness with sometimes chills.

Treatment.—In all cases of Fever, the A.A., is the first and generally the only remedy required. Give fifteen drops at intervals of two or three hours, at first, and by degrees at longer intervals as the animal improves.

Glanders and Farcy

The disease is termed Glanders when it is principally confined to the head and nose, and called Farcy when manifesting itself in the lymphatics.

Symptoms of Glanders.—*Constant* discharge from one or both nostrils, more frequently from one, and that the left; the discharge is at first thin and watery, afterward thick like the white of egg. It may continue in this way for some time, or it soon becomes more mattery, sticky,

then greenish or yellowish, or mixed with streaks of blood, and having a bad smell. Soon after this discharge is noticed, the glands under the jaw become painful and swollen, and one of them appears fixed to the jaw-bone. Then the membrane lining the inside of the nose has a yellowish or leaden color, which is considered characteristic of the disease; small bladders are noticed upon it, which afterward are changed to ulcers; these have sharp borders, and spread and deepen until the gristle and bones beneath become ulcerated. When ulcers appear upon the membrane of the nose, the constitution of the horse is evidently involved; he loses flesh; his belly is tucked up; coat unthrifty and the hair readily comes off; the appetite impaired; the strength fails; cough, more or less urgent, may be heard; the lungs become filled with abscesses, wasting goes on, and the animal soon dies.

Farcy.—Upon the face, lips and other portions of the body, but especially upon the legs, hard, painful and hot lumps are felt, which are called *Farcy buds;* they increase in size, with pain and heat, until the ulceration works through the skin and a thin discharge flows out. Between these lumps along the course of the lymphatics, hardened cords are felt; the groin, inside the thighs, and space between the fore legs and chest, become, from the tumefaction of these lymphatics, swelled and very painful; the legs are swelled, together with the usual discharge of glanders.

Treatment.—In suspected cases were the disease is not well developed or recognized give fifteen drops of the C.C., every two hours.

N. B.—It should be remembered that a well marked case of glanders is *highly contagious.* Not only may the disease be communicated to other animals, but the glandered matter coming in contact with a cut, abraded or sore surface in the human subject, will be liable to result as a very severe, if not fatal, case of poisoning. Prudence demands that we should handle such animals with great caution, and a thoroughly glandered animal

had much better be killed at once than endanger other animals or the lives of human beings, and the more so as the chance of recovery in such a case is very remote.

Inflammation of the Lymphatics, or Weed

In some rare cases horses suffer from Inflammation of the Lymphatics, manifested by cord-like swellings along the course of these vessels. It may be brought on by sudden changes of food, cold and wet weather, sudden over-work after several days of rest, disordered stomach, standing in cold water, exposure to drafts of air etc.

THE SYMPTOMS are as follows: The attack is usually sudden, beginning with a cold, shivering chill, followed by full, strong and quick pulse, accelerated breathing; hot, dry mouth, and general fever. The local manifestation is on one of the hind legs, generally the left, or in rare instances, a fore leg may be affected. The leg is lifted from the ground, is hot and painful to the touch, and swells *from above downward*. The swelling increases rapidly, the leg becomes much larger than the other, the pain increases, and the leg is very sensitive to the touch. Several hard, round and very painful cord-like swellings may be felt on the inside of the leg; these end in small, hardish lumps, and are more painful than the cords. A watery fluid exudes from the skin, and may be seen in drops standing upon the hair.

TREATMENT.—At the commencement, foment the limb for an hour, night and morning, with hot water, and afterward apply HUMPHREYS' MARVEL WITCH HAZEL freely. The horse should have plenty of exercise, and in most cases may be ordered to his work, continuing the medicine as hereinafter directed. Give, three times per day, fifteen drops of the A.A. After a few days, the J.K., may be alternated with the former with advantage. But in general the A.A., will be entirely sufficient.

Purpura Hemorrhagica

Some rare cases of this disease have been observed in the horse. It consists essentially of a decomposition of

the blood, and loss of power in the capillary vessels, as the result of which echymosed or black and blue spots appear on the surface, and upon the mucous membrane wherever it can be seen, hemorrhages occur from various parts of the body and are thrown off with the natural excretions. The inside of the nose is covered with purple spots, as also the inside of the lips. These spots vary in size, and are filled with dark-colored fluid blood, which exudes if they are punctured or scratched. There is diffused swelling over the system, showing itself at the eyelids, breast, flank, belly, quarters, and between the thighs, extending upward. It is attended with weakness and general prostration of the system, swelling and stiffening of the joints, and sloughing off of the membrane of the nose, or other parts.

TREATMENT.—The A.A., will be found appropriate in all cases of this disease. Give a dose of fifteen drops three times per day. If there are hemorrhages from any organ, give half a gill of HUMPHREYS' MARVEL WITCH HAZEL three times per day, between doses of the A.A.

Give common food of good quality, less oats and hay, but especially carrots and potatoes. The last are very serviceable in this disease.

Big Jaw—Actinomycosis

This disease is caused by the Ray fungus which is sometimes found on barley, oats, cactus, dried grass, etc., and which enters the body of the animal through cuts or wounds on the tongue, gums, etc., and particularly with young animals at teething time.

SYMPTOMS.—These of course vary with the position of the wound, through which the fungus entered the body. If on the tongue, the tongue becomes swollen and very painful "wooden tongue." If around the teeth, the jaw becomes swollen and finally the growth breaks through the skin or into the mouth. If through the skin of the head or neck, large nodules appear, varying in size from a hazel nut to a man's fist.

TREATMENT.—The most successful treatment is by cutting out the nodules; this of course should be done by a Veterinary Surgeon.

We advise calling a Veterinary Surgeon and having him perform the operation as soon as possible, as the disease is usually curable if properly handled and it cannot be transmitted to man or to the other animals.

Azoturia

This disease is somewhat common, and is often considered a paralysis from this most frequently prominent symptom. But this condition is really due to imperfect action of the liver and kidneys in failing to eliminate only partially oxidized products and the transformation of albuminoids into urea—thus producing the train of symptoms constituting the disease. It mostly attacks animals out at grass, or those who have been for a time idle on good feed, and are then put to active exercise or work; beans, peas, or other like foods are also liable to produce it. The autumn is its most frequent season of attack and mares seem to be more liable to it than geldings.

SYMPTOMS.—These come on suddenly and without premonitions of disease. The animal may be attacked in the stable after having been out for a short time, after a period of rest. In the milder cases there is only some *lameness* and *muscular trembling* of a particular limb, generally the hind ones, without apparent cause, and on examination there is a dusky brown color of the membrane of the eye and nose, and some tenderness of the ribs when struck; the lameness may be such that the animal may be scarcely able to walk, or may even go down altogether. In other cases the horse is struck down at once from loss of motive power in the loins and hind legs after having been driven only a short time after an interval of rest. In other cases the attack is not so sudden, the animal becomes very restless, perspires freely, seems to be in violent pain, the flanks heave, the nostrils are dilated, the face pinched, the body trembles violently

and shows a disposition to lie down, and very soon, if not already present, the characteristic symptoms appear. These are, *tremors* and *violent spasmodic twitchings* of the *large muscles* of the *back, loins* and *hips*, ending in contractions, with more or less loss of motive power. The body trembles violently, the limbs become weak so that they sway and bend, the animal walks crouchingly behind, and soon goes down unable to support himself, the urine discharged is high-colored, thick, and has a strong ammoniacal odor; the pulse varies from 60 to 80 beats per minute, generally weak though sometimes strong; temperature from 102 to 104.5 Fahrenheit, or even higher. The bowels may be regular, and in mild attacks the appetite is not impaired.

In severe cases the animal lies prostrate, plainly unable to rise, refuses to eat or drink, struggles violently in his attempts to raise himself, and coma (insensibility) may supervene; in such cases the conjunctive mucous membrane of the eyes is much congested.

In *very* violent cases the animal is suddenly struck down, struggles violently for a few hours, becomes comatose and dies.

In milder cases the severe symptoms abate, but the animal does not regain the use of its limbs, and though it may eat and remain perfectly conscious, is unable to rise and ultimately dies from some complication.

In favorable cases the trembling, twitches and spasms abate, the urine becomes more natural, the power of movement returns, and in a few days the animal is convalescent, often having for some time a swelling across the breast like a pad as a result of the dropsical infiltration of this depending tissue.

In other cases, the loss of power in certain muscles remains for a long time, and yet in other cases cerebral complications and death may ensue as a result of defective urinary secretion.

TREATMENT.—Is much more favorable under our method than by the usual course. Give at first A.A., a dose

every hour for six or eight hours to relieve the vascular excitement and increase the action of the liver and kidneys, then give the J.K., in alternation with A.A., at intervals of two hours between doses. Continue these two Remedies for say twenty-four hours, or even longer, and when the animal is easier, and more especially if the urine has *not yet become more free and natural,* interpose H.H., in alternation with J.K., at intervals of three or four hours between doses.

Later on and for remaining complications, if such exist, give J.K., and H.H., two doses of each per day in alternation.

Anthrax—Charbon

This is an epizootic disease with quite an ancient history, mostly prevalent in the deltas, low grounds and river bottoms of our far Southern States. At times it prevails over certain sections, carrying off hundreds and even thousands of horses and mules, while other seasons are measurably free from its ravages.

It is caused by a germ which enters the body through the mouth on food or water or through a cut in the skin. The anthrax germ is very difficult to destroy and a stable or pasture once infected will remain so for many years.

Symptoms.—Usually for some hours before the disease is manifested externally, the affected animal will appear languid, the ears droop and signs of general depression may be noticed, followed by vertigo and colic, slight swellings soon make their appearance. These swellings are at first about the size of a walnut, or the end of one's finger or thumb, are round or slightly irregular in shape, but are always adherent to a pedicle at the base. They are painful and the parts around them are sensitive; when touched with the finger, a local shivering, like a sub-cutaneous beating is distinctly felt. They are variously located, but nearly always upon dependent parts, as under the neck and breast, between the front and hind legs, along the lower part of the chest

and belly, and on the sheath and teats. The sheath in some animals is so enormously swelled as to interfere with urination. The swellings are rarely seen upon the back. Nearly all animals not treated, die in from twelve to thirty-six hours after the first symptoms are noted, the temperature rising to 105 before death.

TREATMENT.—This disease is recognized as being incurable, and generally fatal. In suspected cases, give A.A., every two hours, until the animal improves or the disease becomes thoroughly developed, in which latter case the animal should be killed at once.

The carcass of the animal and everything connected with it should be burned, and the entire premises thoroughly disinfected as given under contagious abortion, page 122.

For Every Living Animal

In addition to the chapters on the Diseases of Horses, Sheep, Cattle, Dogs, Hogs and Poultry, HUMPHREYS' VETERINARY REMEDIES are used for every living animal.

We have constant orders from Atlantic City from the owner of the Performing Seals.

From Arkansas the owner of an Alligator Farm is a persistent user.

Harper Brothers published a book on Canary Birds, and the author refers to the use of our REMEDIES, all through the book.

When the Belgian Hares were imported into this country, the Agricultural papers were full of the accounts of the use of HUMPHREYS' REMEDIES.

There is hardly a lover of Cats in the United States who does not use our REMEDIES.

The dose can be graduated from five to fifteen drops, according to the size of the animal.

PART II

Diseases of Cattle

CHAPTER I

GENERAL DISEASES

Black Leg

Black Leg affects cattle when from three months to two years old, younger or older than this they rarely have it. It comes from a well known germ, the Bacillus Chanvoei, which enters the system through a cut or scratch, such as produced by thorns, barbed wire, etc. The disease cannot be transmitted to man.

Symptoms.—The chief characteristic of this disease is the swellings which may appear on any part of the body, except the tail or below the knee or hock. The thigh and shoulder are most commonly attacked. The swellings rapidly increase in number and may run together. They give a crackling sensation on pressure and are cool and without tenderness in the center. If opened in the center there is no pain and a frothy fluid comes out.

There are also general symptoms as follows: the animal does not eat or chew the cud, loss of strength and general depression, high fever, lameness, stiffness and often dragging of one leg on account of the swellings. These symptoms increase as the disease progresses, the breathing becomes faster, the animal groans and may have attacks of colic. The animal almost always dies in from one and one-half to three days.

Treatment.—The disease is incurable, and diseased animals should be killed at once, the bodies burned and the premises disinfected as given under Abortion, page 122. The healthy animals should be moved to another pasture and the infected pasture burned off the following winter, this destroys the germs in that pasture.

Cattle may be rendered immune to Black Leg by vaccination. The vaccine with directions for its use is given away to stock owners by the Chief of the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C.

Foot and Mouth Disease—Eczema Epizootica

Definition.—An acute, contagious fever, characterized by the formation of vesicles and ulcers, chiefly about the mouth and hoofs, etc. The eruptions appear on the mucous membrane of the mouth, on the fetlock, and in the cleft of the hoofs, and not unfrequently as a eruption on the udder. The disorder chiefly prevails among cattle and sheep, but under favoring circumstances, also attacks other domestic quadrupeds, and even man.

Causes.—It appears as an epidemic, and spreads exclusively by contagion. The precise nature of the germ is unknown, but it is chiefly limited to the contents of the vesicles, the secretion of the ulcers, the saliva, the blood and the natural secretions and excretions, of the diseased animal; and these convey the disease. The predisposing causes are exposure to cold, wet, currents of cold air, poor fodder, want of cleanliness and good housing; and anything that tends to lower the constitutional vitality. The activity of the virus is preserved for many months. The poison may be conveyed by the clothes of herdsmen and other persons, by manure, tools, fodder, by grass and ground previously trodden by diseased animals, and milk to sucking calves, indeed by almost anything. It finds its way into the system in various ways, not depending on any wound for admission. The communication to man is by drinking the milk of diseased cows. A second attack is rare.

Symptoms.—After a period of incubation, lasting from three to six days, the animal is seized with a shivering fit, and appears dull and stupified. A vesicular eruption soon appears on the mouth, the hoofs, and the teats.

Sucking calves have a similar eruption on the fauces and pharynx, with irritation of the whole alimentary canal, attended with inability to suck, and exhausting diarrhea. The eyes are then observed to be dim, watery, congested; the muzzle, ears and horns alternately hot and cold; shivering ensues; rumination is diminished; the milk is less in quantity, yellower and thicker than usual, and much deteriorated in quality; the bag swollen, tender, hot; the back arched; the coat staring and harsh; the pulse somewhat accelerated; the temperature moderately elevated, reaching 102°, or even 104°; the eruption in the mouth is first seen on the inner surface of the upper lip, the edge of the upper jaw where there are no teeth, on the tip and edges of the tongue, and is indicated by salivation, by pain and loss of power in taking and eating food. The vesicles occur on the mucous membrane, singly or in patches, first as little red spots, then as whitish-yellow, slightly turbid blisters, about the size of a bean, at first transparent, but subsequently filled with a puriform fluid. These vesicles burst in about eighteen hours, discharge their fluid, leaving behind shallow ulcers, which often run together and then form deep and ragged ulcers. The lips, cheeks, tongue, and sometimes the Schneiderian membrane, are affected. The eruption on the feet is first seen around the coronet and in the interdigital space, especially of the hind legs; and the resulting vesicles burst quickly, because of the animal's movements. The animal evidently suffers intense pain, is lame or unable to stand, and moves reluctantly or cautiously; the hoofs swell; the vascular secreting membranes become inflamed; the hoofs are cast; the bones may become diseased; and serious mischief may ensue. The eruption on the udder turns to vesicles, as in the mouth, and, when the fluid dries or escapes, thin scales are formed. The teats are swollen and sore. In exceptional cases, a vesicular eruption appears on the muzzle, the mucous membrane of the nostrils, the conjunctivæ of the eyes, and the mucous membrane of the vagina.

In favorable cases, the fever subsides about the fourth day, the eruption declines, the appetite returns, and in seven to fourteen days the animal recovers. But complications are not uncommon. And in unfavorable cases the fever is high, the ulceration increases, the animal suffers from exhaustion, wasting, discharge of stringy, bloody mucous from the mouth, and of offensive matter from the nostrils; the face is swollen, the breath foul, the respiration rapid and grunting; the pulse small, weak, rapid; the blood becomes impure; the belly and legs œdematous; the hoofs slough off; diarrhea supervenes, and death follows about the ninth or tenth day. An aggravation may occur in milch cows by the bursting of the vesicles when the teat is grasped in milking, for the fluid escapes, the sore bleeds and ulcer spreads; and though the sore be scabbed over between the milking times, the scab is then again pulled off. The consequence is that the cow, feeling intense pain and irritation, kicks, resents the milking, holds back the milk, and thus prevents the "stripping" of the udder. The effect of this may be an attack of inflammation of the udder, which may prove fatal, or may be followed by induration and atrophy of the udder. Or abscesses may form in the udder, and sometimes large portions of it slough away, rendering the cow comparatively useless for milking purposes. Abortion is not uncommon.

This disease may be easily mistaken for Stomatitis, cow pox or fowl of the foot. However in Stomatitis there is no eruption on the foot; and in cow pox and fowl of the foot there is no eruption on the muzzle.

Prognosis.—This is unfavorable—The United States Government and the Health Officers of the several States require all suspected cases of Foot and Mouth Disease to be quarantined, and upon the full development of the disease all animals infected, to be killed. Human beings are liable to become infected, great care should be exercised in handling diseased animals or their carcases.

Rheumatism

This disease is almost invariably the consequence of cold and wet, or chill after over-exertion. The symptoms are as follows:

Dullness; loss of spirits; disinclination to move, and painful stiffness of the back or joints when moving; loss of appetite; pain in the back, manifested by the animal flinching when pressed upon; the joints, one or more, become affected, and the animal prefers to lie down, and cannot move without great pain and difficulty; the joints, or one or more of them, become swelled, and are also exceedingly hot and tender to the touch. In some cases, there is considerable heat and fever, in others, it is but slight. The complaint is quite liable to return from exposure, changes of weather, or even the wind blowing from a different quarter. The disease not unfrequently changes from one joint or limb to another.

TREATMENT.—The B.B., is for all the usual forms of this disease, giving twenty drops, three or four times per day, in severe cases, and morning and night in the mild ones.

When the disease is ushered in or attended with considerable heat and fever, either during its continuance, or from the first, the A.A., in doses of twenty drops, should be alternated with the B.B., at the intervals mentioned above.

Lumbago

This is merely a form of rheumatism, locating itself upon the muscles of the loins. It may be mistaken for some other or different disease, and hence its symptoms should be known.

SYMPTOMS.—After some exposure, especially to cold or wet, or a draft of air, the cow will suddenly become lame in one leg, without other signs to explain the nature of the attack. Another leg may then be affected, while the first one seems better or quite well. Some pain and heat may be discovered in one of the joints; and then the

muscles of the back show more clearly the location of the disease; or from the first the disease may be referable to this point; the animal yields and flinches when they are pressed upon, in consequence of the pain; the beast is not able to walk, or does so very stiffly and awkwardly, in consequence of increased pain from movement. These attacks may continue for a time, disappear and return again, in consequence of new exposure.

TREATMENT.—The B.B. should be given, a dose of twenty drops, three times per day, which follow with J.K.

Ophthalmia, Inflammation of the Eye

Diseased and inflamed eyes in cattle may sometimes occur as a result of congestion, or from inflammation or a cold, but in general from an injury, the result of a blow of a whip, or stick, or from dirt or hay seed, or some similar substance irritating the eye.

SYMPTOMS.—The eyelids are swelled and closed; tears flow in abundance; the eye shrinks from the light when the lids are opened; the white of the eye or conjunctiva is reddish or covered with red veins; the haw is also red and swollen; the eye itself is clouded and covered with a film.

TREATMENT.—Examine the eye for dirt, hay seed, or other substances, and when found remove them. Bathe the eye with HUMPHREYS' MARVEL WITCH HAZEL, diluted half and half with soft water, morning and night, until the more violent symptoms are removed. Give, internally, fifteen drops of A.A. each morning and night.

In long standing cases, a dose of I.I., repeated every few nights, will be found of great value, while the A.A. is given each morning.

Fits, Convulsions, Epilepsy

The symptoms of fits are pretty well known. Without any or very trifling warning, the beast staggers and falls suddenly to the ground; he often bellows in the most alarming manner; then every part of the body is violently

convulsed; the tail is lashed; the teeth are ground; the mouth closed, and jaws fastened together; the breathing is quick and attended with heaving at the flanks; frothy saliva dribbles from the mouth, and the urine and dung are discharged involuntarily. In a few moments the convulsions become less severe, then cease, and the animal soon seems as well as if nothing had happened.

Fits are most apt to attack young, vigorous, well-fed cattle, or those that have been much exposed to the direct action of the sun.

TREATMENT.—Little or nothing can be done during an attack; but as one is likely to be followed by another, the medicine should be given as soon as the attack is well over.

Give, immediately after the attack, twenty drops of the A.A., and repeat the remedy morning and night for some days.

If an animal is subject to these fits (epilepsy), returning at intervals of a few days or weeks, give, alternately, at intervals of six or eight days, twenty drops of A.A., and J.K., and continue these for some time.

Foul in the Foot, Foot-rot

Usually comes from standing on a filthy floor, but may follow an injury or tuberculosis.

There is lameness and swelling of the pasterns, and heat, with evident pain; matter then forms, and unless it is let out, it will extend in all directions under the foot, and appear at the coronet or top of the hoof; and from this long, narrow ulcers remain, and proud flesh springs up from the diseased places.

TREATMENT.—Place animal in stall with clean dry bedding. Examine the foot carefully, and remove all foreign substances, dirt, etc., that may be found; then foment the foot with hot water, night and morning, and apply the VETERINARY OIL, and wrap it up with a cloth to keep it clean; the hoof should be pared, and those parts of it cut away that may interfere with the escape of matter; all dead hoof must be removed. The sore must be examined, and if dark and unhealthy, the OIL and covering must be renewed from time to time until the dark matter sloughs off. After the ulcer looks clean,

simply apply the VETERINARY OIL, over which a cloth must be kept wrapped around to prevent dirt lodging in the wound and causing fresh irritation. These may be renewed, if needful, until entire recovery.

Give also the I.I., each night, a dose of twenty drops.

Mange

MANGE is a disease caused by parasites which live on the skin of the animal. These parasites are of three kinds: 1. Burrowing mites or Sarcoptes. 2. Sucking mites or Dermatodectes. 3. Scale eating mites or Symbiotes. The first class can be seen only with a magnifying glass but the last two can be seen with the naked eye.

SARCOPTIC MANGE is very rare in cattle; the dermatodectic and symbiotic are the usual forms.

SYMPTOMS.—Great itching; so that the animal is continually rubbing itself, the hair falls off, scabs or sores remain in patches particularly at the sides and hollow of the neck and the root of the tail.

TREATMENT.—Clip the hair around the sore places and soften scabs by applying oil or glycerine containing 5% of creolin or lysol. Then apply a thick lather of green soap and leave on over night. These applications are to soften and remove the scabs and prepare the skin for the real remedy. Of these there are many; sulphur ointment (equal parts flowers of sulphur and lard) is an old standby or you can use a 3% solution of creolin or lysol. This should be thoroughly rubbed into the skin by a brush and kept on for a week reapplying as it becomes rubbed off. Then wash off and reapply for another week. The reason for the second application is that while the first will kill off all the animals, there may be some eggs that are not killed and if only one application is made after it has been removed, the eggs may hatch out and the Mange come back.

Hidebound

This condition, in which the skin seems firm, hard and bound to the parts beneath, is due to some morbid condition of the system rather than to a disease of the skin itself. There is most frequently some derangement of the stomach, or some old standing organic disease.

Remove these, and the disease disappears, and the hide becomes soft and loose.

TREATMENT.—Giving twenty-drops of J.K., morning and night, will generally remove the difficulty.

If it fails after a fair trial, give the J.K., each night, and twenty drops of I.I., each morning.

Anthrax

ANTHRAX is a very contagious disease from which comes a well known germ, the bacillus anthracis, and which attacks almost all animals and man. The germ lives in the animal's body and also in rich moist soils, and is very difficult to eradicate. The germ enters the body by the mouth, in food or water, or through cuts in the skin.

SYMPTOMS.—There is sudden high fever (105 to 107) the pulse is very frequent (80 to a 100 or more) small and scarcely perceptible. The mucous membrane of the head becomes very red, the eyes red, swollen and filled with tears. The temperature of the body is unequally distributed, some parts hot, others cold. The animal does not eat or chew the cud. There is great depression, weakness, stupor and loss of sensation. There is trembling over the body, particularly in the hind quarters, which may even "give way". Sometimes instead of stupor, there are attacks of fury, where the animal will bellow and dash itself against any object it may see.

There may or may not be carbuncles, these are small swellings about the size of a walnut, which may appear on the head, chest, abdomen, etc., they are blue-black or dark red in color and are not usually painful.

One of the most remarkable things about anthrax is its rapid course, most animals die in from 12 to 48 hours. After death the bodies do not get stiff and decay very rapidly.

TREATMENT.—This disease is recognized as being incurable, and generally fatal. In suspected cases, give A.A., every two hours, until the animal improves, or the disease becomes thoroughly developed in which latter case the animal should be killed at once, the body burned,

and the premises disinfected as given under contagious abortion, page 122.

Big Jaw—Actinomycosis

This disease is caused by the Ray fungus which is sometimes found on barley, oats, cactus, dried grass, etc., and which enters the body of the animal through cuts or wounds on the tongue, gums, etc., and particularly with young animals at teething time.

Symptoms.—These of course vary with the position of the wound, through which the fungus entered the body. If on the tongue, the tongue becomes swollen and very painful "wooden tongue." If around the teeth, the jaw becomes swollen and finally the growth breaks through the skin or into the mouth. If through the skin of the head or neck, large nodules appear, varying in size from a hazel nut to a man's fist.

Treatment.—The most successful treatment is by cutting out the nodules; this of course should be done by a Veterinary Surgeon.

We advise calling a Veterinary Surgeon and having him perform the operation as soon as possible, as the disease is usually curable if properly handled and it cannot be transmitted to man or to the other animals.

Texas-Fever—Red Water—Black Water—Hemoglobinuria

This disease is an infection of the blood by small animals called protozoa which are transmitted by the cattle tick. Only cattle get this disease although other animals may have plenty of ticks.

The cattle tick spends part of its life on the animal and part on the ground. The females after having become pregnant, while on the cattle, drop to the ground and lay their eggs; when the eggs hatch, the young ticks crawl to the top of the blades of grass and attach themselves to the cattle.

There are two types of this disease, the acute and the chronic, the acute form usually attacks cattle in hot weather, while the chronic or mild form is more apt to be found in the fall.

Symptoms.—In the acute form there is fever, great depression, loss of appetite, and the animal does not chew the cud. The animal lies down or stands with arched back. The most characteristic symptom is the color of the urine; this ranges from pink to black. Death takes place in from three to four days, generally preceded by a fall of temperature, or the fever may drop and the animal recover very slowly. In the chronic or mild type, there is fever, loss of appetite, the animal does not chew the cud and may become very thin; but usually the urine is not discolored. In this type of the disease the animals usually recover.

You should be careful not to mistake Texas Fever for Anthrax or Black Leg. In Texas Fever the ticks are always found on the hide, and calves do not have it while all animals have Anthrax. The membranes are pale in Texas Fever, but very red in Anthrax. In Black Leg the animals are from six months to two years old, older or younger they do not have it; and of course there are the characteristic swellings.

Treatment.—Prevention is usually more satisfactory than treatment after the disease has started. However as the disease is not transmitted to the other animals or to man, there is no reason for not trying to save the animal. Give A.A., twenty drops four times a day for two days, then alternate H.H., with the A.A. Remove all ticks and place in a tick free enclosure and give nourishing diet.

Prevention.—For small numbers of animals in infested districts.

Pick or brush the ticks from the animals three times per week particularly from belly, legs, tail and udder from June 1st to November 1st.

Or smear the legs and sides of the cattle twice a week with Beaumont crude petroleum, or a mixture of 1 gallon each of cottonseed and kerosene oil (coal oil) containing 1 pound of sulphur, these may be either brushed or sprayed on from June 1st to November 1st.

For large numbers of animals write to the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C., and ask for Farmers Bulletin No. 152.

To remove ticks from an infested pasture.

1..Remove all animals on September 1st and allow no animals on the pasture until April 1st, or cultivate the pasture for a year, or burn it over in spring and fall, and allow no animals with ticks on it.

Government Approvals

Approval of DR. HUMPHREYS' PREPARATIONS has been bestowed by the Medical Authorities of different American Republics. Their introduction into France has been allowed by the French Government. They have been approved by the National Board of Health of the Argentine Republic and by the National Board of Health of the United States of Brazil.

Many complete outfits of HUMPHREYS' VETERINARY REMEDIES have been furnished to the United States Geological Survey, Department of the Interior.

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Humphreys' Homeo. Medicine Co.

Cor. William and Ann Streets **NEW YORK**

CHAPTER II.—PART II.

DISEASES OF THE ORGANS OF RESPIRATION

Choryza, or Cold in the Head

This very common affection consists of an irritation, and sometimes inflammation of the lining membrane of the nose. It is usually caused by exposure to cold or wet, or too sudden changes of weather; it is sometimes the commencement of catarrh, and is most frequent during winter and early spring; or it may arise from the irritation of dust inhaled during a long journey.

SYMPTOMS.—In some cases of cold, the irritation is confined to the nose alone, and is then known as Choryza. It is manifested by a discharge from the nose, first thin and watery, afterward becoming thicker, like matter, and corrosive, fretting the skin.

If the disease extends along the air passages, bronchitis, or even inflammation of the lungs, results, manifested by the cough, fever and difficulty of breathing peculiar to these affections.

TREATMENT.—For mere choryza or cold in the head, give twenty drops of C.C., morning and night.

If symptoms of Fever, Bronchitis, or Pneumonia should be present, interpose a few doses of A.A., twenty drops, repeated every three or four hours, which will promptly relieve. Consult also what is said on Bronchitis or Pneumonia.

Hoose, Catarrh, or Common Cold

Differs from the Choryza, as the irritation involves the lining membrane of the entire air passages. It is most frequent in the changeable weather of spring and fall, when cattle are exposed to frequent alternations of temperature, or when too many cows are crowded

together in a stable, rendering the air hot and impure. Young beasts and cows after calving are especially subject to hoose.

Symptoms.—Dry nose, frequent cough, discharge from the nostrils, stiffness of the limbs, disinclination to move, purging, cold skin, and then hot; imperfect chewing of the cud, failing of milk, watery eyes, quick pulse and breathing. It is very frequent and very fatal in calves, and requires to be attended to promptly in all cases, or it will end in some more dangerous disease.

Treatment.—During the earlier stage, with fever, heat, quick pulse and breathing, give the A.A., a dose of twenty drops, four times per day.

Should cough and irritation remain, or not yield promptly to the A.A., give the E.E., the same dose, repeated four times daily; or if fever yet continues, give the two Remedies in alternation, at intervals of three hours.

For calves, give one-third or half as much as for grown cattle, according to age or size.

Sore Throat or Pharyngitis

The disease consists of inflammation, with consequent swelling and soreness of the top of the gullet or passage between the mouth and stomach. It arises from the same causes which produce colds, and sometimes assumes an epidemic and very fatal character, especially when the spring or fall is very cold and wet and the animals graze on damp, marshy grounds. It is usually accompanied with catarrh.

Symptoms.—Difficulty of swallowing, so that solid food is partially chewed and then dropped from the mouth; fluids are gulped down, or partly return through the nostrils; or all food may be refused in consequence of the severe pain attending swallowing; the cud is not chewed; the throat and glands of the neck are swelled, hot and painful; the cough is frequent, hoarse, and indicates

pain; the breathing becomes very difficult and labored, and the pulse full and quick.

TREATMENT.—Give twenty drops of A.A., every three or four hours, until three doses have been given, then begin with the C.C., and give every three hours of the C.C., in alternation with the A.A. As the animal improves and the fever and heat abate, the A.A., may be discontinued, and the C.C., be used alone, at intervals of four or six hours.

In all febrile diseases of cattle, it is of the utmost importance to house them in a *warm, dry, comfortable stable,* free from exposure, dampness, or cold drafts of air, especially in cold or moist weather.

Cough

Cough in the cow is rarely or never a disease of itself, but merely a symptom or attendant of some disease of the respiratory organs, such as Catarrh, Bronchitis, Pleurisy or Pneumonia, of which it is merely the indication. Its symptomatic importance is such that it always deserves attention, and its cause should at once be carefully investigated. In some case very grave alterations may be going on in the lungs, which will escape notice if attention be not directed to it by means of the cough. Examine the animal carefully, ascertain the state of her pulse, breathing, appetite, secretion of milk, etc., and direct treatment for such disease as is found to be present.

However, in the absence of any special indications, the E.E., should be given, a dose of twenty drops morning and night, which will generally relieve, and will not be out of place in any case.

Bronchitis, or Inflammation of the Bronchial Tubes

This disease is usually the result of exposure to cold and wet, or sudden changes of temperature; it is almost always preceded by a common cold, which has been neglected or over-looked.

SYMPTOMS.—Cough, which becomes by degrees more painful, frequent and husky; the countenance becomes anxious and distressed; the breathing is quick, heaving and obstructed, in consequence of tough, tenacious phlegm; unwillingness to move; the breath is hot; the cough is increased by moving about, occurs in fits, and is wheezing in character; no food is eaten; the animal wastes; skin becomes dry, and is bound to the ribs; the coat stares and looks unthrifty. The animal may die from extension of the disease to the substance of the lungs.

TREATMENT.—The earlier stages of this disease, or catarrh, should be treated at once, as directed under that head. Then a dose or two of the remedy for that disease removes all danger.

Remove the animal to a warm but well-ventilated stable, and feed on warm mashes and gruel.

Give first, at intervals of two hours, two or three doses of A.A., twenty drops at a dose. This will allay the heat and fever to some extent. Then alternate, at intervals of three hours, the E.E., with the A.A., the same doses, and continue this treatment until restored, only that the medicine need not be given so frequently after improvement has progressed.

Pleurisy

This disease consists of an inflammation of the delicate membrane which lines the chest, and also is reflected over or covers the lungs.

It is caused most frequently by exposure to cold, or from the extention of catarrh. Pleurisy rarely exists alone, but is almost invariably complicated with bronchitis or pneumonia, or both.

SYMPTOMS.—The disease generally begins in the same manner as pneumonia, with dullness, loss of appetite, etc. The cough is attended with pain, and seems to be cut short, as if the animal tried to stop it; the breathing is short, seemingly cut off and evidently painful during

the passage of the air into the lungs, and is attended with a grunt during its expiration; the sides are painful when pressed upon; the skin, at the angles of the mouth, is wrinkled; the shoulders and upper part of the chest are in a constant quiver; the head is stretched out; the eyes are unusually bright; the tongue hangs out of the mouth, from which frothy slaver is continually flowing. The animal neither eats nor chews the cud; she gets weaker and thinner every day, and all the symptoms become more and more severe until death ensues, often preceded by excessive purging.

TREATMENT.—Give at first the A.A., a dose of twenty drops, every two hours, and continue this the first day and night if the case is severe.

Then alternate the E.E., with the A.A., at intervals of two, three or four hours.

FOOD AND STABLING.—In all serious diseases of the air-passages, Bronchitis, Pleurisy, Pneumonia, etc., the animal should be placed in a dry, comfortable stable, not too close, and her food should consist of bran-mashes, boiled carrots or turnips, meal-gruel and hay tea. Good old hay may be given *sparingly;* straw and chaff not at all. When the appetite is returning, great care must be taken not to give too much food at once, for if the stomach is overloaded or crammed, disease is almost sure to return, and the animal to die in consequence. *Give but very sparingly of food* until the stomach has fully regained its former power of digestion.

Pneumonia, or Inflammation of the Lungs

This is an inflammation of the substance of the lungs, or lights, and is rarely unaccompanied with pleurisy or bronchitis. It is usually brought on by exposure to cold or sudden changes of temperature, or from the extension of a common cold.

THE SYMPTOMS are as follows: The cow becomes dull, disinclined to move, and hangs her head; the muzzle is dry; the mouth hot; the cough frequent and dry; the

coat rough and staring; the horns, ears and feet are hot at one time and cold at another; the breathing is quickened and attended with heaving of the flanks; the pulse is full and quick; appetite is gone and chewing of the cud suspended. The thirst is great, bowels bound and dung dark colored; the spine is tender when pressed upon; the head projected forward and eyes staring; tears flow down the face; the teeth are ground; a discharge flows from the nose, at first clear and watery, afterwards red and containing some blood; the breathing becomes quicker, more difficult, and labored as the disease advances; the cough comes on in fits; the nostrils are widened, and play to their utmost limit; the body is covered with sweat; the pulse becomes weaker and increased in frequency, and these symptoms increase in violence and become gradually worse until the animal dies.

Treatment.—Give, the first twelve or twenty-four hours, the A.A., a dose of twenty drops, every two hours.

After the fever and heat have been thus in a measure subdued, alternate the E.E. with the A.A., at intervals of three hours, giving as before, twenty drops at a dose.

Continue this treatment steadily, except that, unless the case is very critical and urgent, the medicine need not to be kept up during the night, but a dose of the E.E. may be given, late in the night, and be permitted to act undisturbed until the morning; then go on as before.

For food and stabling, consult the article on Pleurisy, page 149.

Bronchitis from Worms

Causes.—Calves and yearlings are particularly liable to the production of parasite worms, of the genus *Filaria*, in the bronchial tubes, which are sometimes choked up with them. They are from one to three inches long, of a silvery color, and generally invade cattle fed in low, marshy or woody pasture, where there is little water.

Symptoms.—Slight catarrh; cough, at first dry and husky, then short and paroxysmal; accelerated breathing, with occasional grunting, and distress in the chest; quick pulse (100); thin nasal discharge; dullness; wasting. If these be not relieved, the animal becomes restless, manifests anxiety, breathes with rapidity, difficulty and grunting; the ears hang, the nostrils widen, the eyes are hollow; dyspnœa, debility, and atrophy end in death. Sometimes there is tolerable health, while the flesh all wastes away, and nothing is left but skin and bones. A *post-mortem* examination shows inflammation and thickening of the bronchia and lungs, and accumulation of worms, rolled together with mucous in small balls.

Treatment.—Where there is any doubt of the existence of worms, treat as for bronchitis. If disease is evidently from an accumulation of worms in the bronchial tubes, the inhalation of chloroform is recommended, repeated at lengthened intervals, according to the circumstances of the case.

Tuberculosis—Consumption

Definition.—This is a serious and almost always a chronic disease, characterized by the formation of tubercules in the lungs, glands, intestines, udder, etc., which, increasing in size and running together, at length suppurate, and form abscesses in the substance of those organs.

Causes.—Tuberculosis is caused by the Bacillus Tuberculosis which is transmitted to a healthy animal by water, fodder, dust, etc., which has come in contact with the nasal or uterine discharges of a diseased animal. However bad ventilation and poor nourished predispose to the disease.

Symptoms.—Inward, feeble, painful, hoarse, gurgling cough, especially after exertion; loss of appetite; irregularity of rumination; disturbance of digestion; emaciation; loss of hair, especially of the eye-brows; unthrifty appearance.

TREATMENT.—This disease is recognized as being incurable, and generally fatal. In suspected cases, give A.A., and E.E., every two hours, until the animal improves or the disease becomes thoroughly developed, in which latter case the animal should be killed at once.

ACCESSORY TREATMENT.—The animal should be housed in a stable that is comfortable and airy, but free from north and east winds, and kept apart from other cattle; it should never be hurried, excited or alarmed; the litter should be frequently changed and kept dry, and the skin frequently rubbed and curry-combed to stimulate its perspiratory action.

PALO ALTO

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CHAPTER III.—PART II.

DISEASES OF THE ORGANS OF DIGESTION

Rumination

Oxen and sheep belong to the class of animals known as Ruminants, which feed principally on the leaves and stalks of plants. The quantity of food which they take at a time is very considerable; with a powerful prehensile tongue, they rapidly gather up into their mouths thick and long tufts of grass, which are only slightly masticated, and immediately swallowed. Four stomachs—so-called, although the fourth stomach is the true stomach, and the other three are appendages of the œsophagus—are employed in the process of digestion. The first—the paunch, or rumen—is by far the larger of the four, occupying three-fourths of the abdominal cavity. Its mucous membrane is rough with *papillæ* or eminences, and protected with a dense scaly *epithelium*. The second is called the recticulum, or honey-comb bag, because the lining mucous membrane is so disposed in folds as to form hexagonal spaces; within these spaces the tubes of the glands may be seen. This bag is the smallest of the digestive organs, is connected with the anterior part of the paunch, with which it communicates freely, and to which, indeed, it may be regarded as dependent. The third cavity is the *manyplies, maniplus* or *omasum;* the first name being given on account of the many plies or folds formed by the mucous membrane. These folds are of unequal breadth, the principal ones being separated by others, which gradually diminish in size. The surface is covered with *papillæ*, the folds being flattened at the

sides and somewhat pointed at the fore edges, forming ridges and furrows. The contents of the manyplies are always dry; the food sometimes becomes compressed into thin cakes between the folds, and the epithelium manifests a tendency to peel off in shreds and adhere to the pulpy mass of food. The fourth cavity—the *abomasum* or *rennet*—is the true stomach, discharging the same functions as the stomachs of those animals that have only one such organ. It is considerably larger than either the second or third stomach, although less than the first; is lined with a thick villous coat, which is contracted into ridges and furrows, somewhat like the omasum, and secretes an acid, solvent juice, essential to the process of chymification. The act of rumination calls into exercise the first three organs. The crushed food passes from the œsophagus to the rumen; there it remains for some time, subject to the action of heat, saliva, mucous and the secretion of the organ. The tougher the food the longer it is retained. From the rumen the food passes to the recticulum, where the operation of maceration, commenced in the first stomach, is continued, the operation being facilitated by a slow, churning movement characteristic of both organs. The recticulum also appears to be the special receptacle of the fluid that is swallowed, for this at once passes into it, without going into the first stomach. The precise nature of the action of the secretions is uncertain. It is supposed to be a fermentation; no doubt at all times a certain proportion of gas is evolved from the food, but excessive fermentation is indicative of disease (Hoove), and of rapid and dangerous chemical change in the contents of the rumen. The pulpy mass, to which the food has been reduced by the chemical change and churning movement of the first two digestive cavities, is now prepared for thorough mastication by the teeth, and for ultimate solution by the digestive fluids. This mastication is *rumination*, or "chewing the cud." The return of the food to the mouth for this operation is effected by the

churning movement and by the contraction of the diaphragm and abdominal muscles, which press upward against the rumen and recticulum. The act of regurgitation is very evident to an observer, who sees a large mass ascend from the paunch and distend the œsophagus with an eructating noise. At the moment that a mass of the food passes into the mouth, the accompanying liquid is swallowed into the first of the three stomachs, leaving the solid portion to be slowly ground by the teeth. The length of time thus taken varies with the toughness of the food. Young and very old animals take longer to chew the cud than healthy adults. When the food has been sufficiently comminuted it is again swallowed, some of it into the first two stomachs; but, by a peculiar mechanism of muscular contraction; the passage into the first is so closed that the greater portion of it passes through the opening into the third stomach, from which it goes into the abomasum. The function of the omasum appears to be to regulate the descent of food into the abomasum, though some means of assimilation may take place between its many plies. The last stomach, as already stated, completes the process of digestion.

Loss of the Cud

This is a mere symptom which accompanies many diseases, and even morbid conditions, which scarcely deserve the name of disease, and will yield with the removal of the ailment of which it is a mere symptom. Sometimes it may be present when nothing else is sufficiently tangible to warrant treatment, or it may continue after the disease otherwise seems to have been removed.

Treatment.—In any case in which it appears to exist independently, or to be the principal symptom, give twenty drops of the J.K., morning and night. The "cud" will soon return.

Colic

This disease is not so dangerous as tympanitis, yet it may prove fatal from bad treatment or neglect. It is generally the result of improper or indigestible food, or food in too great quantity, or that to which the animal is not accustomed. If colic comes on after indigestible food, it is accompanied by constipation and thirst. Certain kinds of food, such as grains, oats, decayed turnips or cabbages, or dry food, are liable to induce it, or it may arise from exposure to cold when the body is warm, or from cold drinking when the body is heated.

It consists in severe paroxysms of pain in the bowels, and, if neglected, is liable to cause inflammatory disease of the digestive organs.

Symptoms.—Sudden manifestation of pain in the belly, by uneasiness, pawing the ground, striking the belly with the hind legs or horns, often lying down and then rising, grinding the teeth, and moaning. When caused by wind, the belly is much swelled on the left side, and there is frequent passage of flatus. The animal's back is arched, and she frequently looks at her flanks, scrapes with her fore feet, and kicks with the hind ones. All these symptoms increase, until she expires amid groans and grinding of the teeth. Or the following may be noticed:

The animal refuses to eat, looks to its sides, paws the ground, kicks against the body with the hind feet, lies down, rises again, and continues these movements till unable longer to keep upon its feet. Often the animal falls down so violently that it seems as though the four legs were suddenly struck away from under it, or he squats down like a dog upon his hind quarters, rolls over, lies upon his back for a time, with the legs stretched upward, and generally acts as if frantic. The horns, ears and feet are alternately hot and cold. The animal suffers from thirst and constipation, the longer the constipation the more acute the pain; the paunch is much

swollen. If recovery takes place, the symptoms are gradually mitigated, and then entirely disappear. On the other hand, if the pains get worse and become more frequent, the bowels become inflamed, and if the pains, under these circumstances, suddenly disappear, the inflammation terminates in *gangrene* (mortification), and the animal dies.

TREATMENT.—The F.F., will almost invariably be found successful. Give a dose of twenty drops every half-hour until relieved. If not better after a few doses, and should there be fever, alternate the A.A., the same dose, with the F.F., at the same intervals. As the animal seems relieved, or partially so, give the remedies at longer intervals.

Constipation

This is rarely of grave consequence in cattle, and when it exists, is usually a symptom of some other disease. When present, a dose of twenty drops of the J.K., given morning and night, will soon set all right again. If there is suspicion of some inflammatory condition lurking in the system, the A.A., in like doses, will have the like effect.

Tympanitis—Hoove—Blown—Drum-Belly—Grain-Sick—Heaving of the Flanks—Maw-Bound

This disorder—of very frequent occurrence among cattle, though not belonging exclusively to them—is of two kinds; one due to the evolution of gas from the food taken, the other to the impaction of the food. In one case the gas produces enormous inflation of the rumen, or first of the four stomachs possessed by cattle, in the other distension.

DIAGNOSIS.—To Mr. Surmon we are indebted for the following table of

DIFFERENCES BETWEEN DISTENSION FROM GAS AND FOOD

DISTENTION FROM GAS	DISTENSION FROM IMPACTED FOOD
The left flank, on pressure, feels soft, elastic and yielding to the fingers. On percussion, sounds hollow and drum-like.	The left flank, on pressure, feels solid; does not yield readily to the fingers. On percussion, or on being struck, sounds dull.
Frequent belching; the wind which escapes has an offensive smell.	No belching or eructation of wind.
Respiration quick, short and puffing.	Respiration not much interfered with.
Position standing; head stretched forward, unable to move; moans, and appears in great distress; eyes red and staring.	Position lying down, and is with difficulty induced to move; looking dull and listless.

Causes.—When cattle, especially such as have had poor and scanty food, are turned into a rich pasture, or stray into the fields of lucern, etc., they will often eat ravenously, and take more than they can digest. Wet grass in warm weather, or fodder that has become heated in consequence of being heaped together while damp, may also be too freely eaten. The consequence is that the rumen is overloaded, and the contents, under the influence of warmth and moisture, ferment and evolve what is at first carburetted hydrogen; and subsequently sulphuretted hydrogen; or, if there be no formation of gas, the food remains solid and undigested. Drinking excessively of cold water, eating too much bran, chaff, unboiled potatoes, uncrushed oats, grains, boiled roots or turnips, may cause the same condition.

Symptoms.—These may appear suddenly, but always soon after the animal has been feeding generally on returning from the field; they may, however, occur in

the stable. The animal ceases to eat or ruminate, is swollen or "blown" over the whole belly, but particularly at the flanks or left side, where the distended stomach lies. The rumen is enormously swollen, the pillars of the œsophagus are tightly closed, thus preventing the escape of gas; and the greater the distention the firmer is the closure of the œsophagus. The swelling yields when pressed by the finger, and gives forth a hollow sound, like that from a drum when it is struck. There are also sour and noisy belchings of wind; the cow does not move, moans, and is evidently in great distress. The distended rumen presses on the diaphragm and impedes the action of the heart and lungs, causing shortness and difficulty of breathing; the nostrils are widely dilated, and there is a threatening of suffocation. As the disease advances, the pulse becomes hard, full, and quicker than before; the eyes are bloodshot, glazed, fixed and prominent; the mouth is hot and full to dripping of frothy slaver; the tongue hangs out; the veins of the neck and chest are distended with blood; the poor beast crouches, with its back bent up; the legs are drawn under the body; the tail is curved upward; the anus, which is closed, protrudes. The body is now covered with cold sweat; the animal stands in one place, continually moans or grunts, trembles, totters, falls, struggles violently, ejects from mouth and nose sour fluid mixed with solid food, and at length sinks and dies, either from suffocation or rupture of the stomach.

TREATMENT.—This is the same whether the distention is from gas or impacted food. F.F. may be given a dose every quarter or half hour. We give the method of puncturing, which, however, need never be resorted to if the F.F. be administered.

Puncturing.—Relief is sometimes very urgently required, and this is best afforded either by plunging a trocar into the left side, or by passing a probang down the œsophagus into the paunch. If the trocar is used, let the canula of the instrument be ten or twelve inches long, so as to prevent the paunch from slipping away from the canula

and causing delay, and perhaps further danger. *Chloride of Lime* is valuable after the animal is somewhat relieved by the use of the trocar; about two drachms should be mixed with a quart of water. In case of immediate relief being imperative, and a trocar not being at hand, a long, sharp-pointed pen-knife may be used for puncturing. The place for puncturing is midway between the hip and ribs, where the distended rumen is prominent; the direction is inward and downward. The puncture will be followed by an outrush of gas, fluid, and even portions of food. A quill, or some other tube, must be ready to be inserted in the hole immediately after the knife is withdrawn, otherwise the wound will close. If nothing tubular be at hand, a smooth piece of stick must be put in, or anything else that will serve the purpose of keeping open the wound till the gas has escaped. The danger of this operation is not from the wound itself, but from the escape of the contents of the paunch into the abdomen, which would cause peritonitis, or from piercing the spleen or kidney. The operation can only be regarded as a rough one, to be adopted in case of great emergency.

When distension has ceased and matters have to some extent resumed their ordinary course, the animal should remain some hours without food or water. The food afterwards should be sparing and suitable.

J.K., should be administered two or three times daily until the animal is fully recovered.

Diarrhea, Scouring

Diarrhea is more common in old cattle and calves than in those of middle age, where it is generally of little importance, soon correcting itself, especially in the spring, when herds are first turned into green fields. The usual causes are: decayed cabbages, bad grains, or other improper food, or impure water; sudden change to rich pastures; the use of purgative medicines; exposure to cold and wet, acrid bile, sudden change from dry to wet weather, or severe exertion in hot, dry weather.

SYMPTOMS.—The disease comes on slowly, with staring coat, shaking, arched back, fore legs drawn together, cold legs, ears and horns, weak pulse, tucked-up belly, bowels rather looser than usual, deficient appetite. The animal becomes thinner, more depressed and dull; little or no milk is given, and the bowels are purged to an alarming extent. This purging may stop and then reappear to end fatally, or terminate in dysentery.

TREATMENT.—We should, of course, give food not so loosening in its character and the F.F., a dose of twenty drops two or three times per day, will usually be found quite sufficient. In extreme cases, or in case of failure with this remedy, the I.I., may be alternated with it, at the same or even more frequent intervals.

Diarrhea or Cholera or "Skitt" in Young Calves

Is quite common, and not unfrequently dangerous. In its more dangerous form it appears the first or second day, and it is then presumably caused by the feverish or unhealthy condition of the mother's milk. In its natural condition, this first milk is laxative and intended to act as a removal of the first passages in the new born calf.

When the milk is very rich in butter, as in the Jersey cattle, it becomes excessively laxative, especially during the period of the milk fever, or the first three days after calving. The passages are noticed to be very frequent, loose, liquid, or even watery, with weakness and rapid wasting; the legs and ears become cold, and, in extreme cases, short breath and panting with the tongue out.

TREATMENT.—The dam should always have a dose of A.A., soon after calving, and this should be continued, a dose at least three times per day for four days, or until the usual danger from milk fever is passed.

If, however, the dam has had no treatment, give her a dose alternately of the A.A., and of the F.F., at intervals of three hours, to change the feverish or unhealthy nature of the milk, as well as to give the calf the Remedy through the mother's milk.

Give also to the calf a dose of five drops of F.F., once in three hours if the case is urgent, or three times per day if but slight, and gradually omit as the calf improves. If the F.F., fails, give I.I., a dose every fifteen minutes or half hour at first until relieved, then once in three hours.

Dysentery—Johnes Disease

This is a disease which has existed on certain farms for years without either the owners or Veterinarians knowing what it was, and it is only within the last few years that we have known that it was caused by a definite disease germ.

Symptoms.—This disease usually attacks whole herds rather than individual animals. At first there is loss of condition and weight with rough coat and dry skin, then diarrhea is noticed, the discharges being brown and like molasses. There is no fever, but the animal has little appetite and keeps getting thinner and weaker all the time until it finally dies from exhaustion. The course of the disease is long—from two months to three years—and is always fatal.

Treatment.—In suspected cases give F.F., twenty drops every three hours, until the animal improves or the disease becomes thoroughly developed in which latter case the animal should be killed at once, and the place disinfected as given under abortion on page 122.

Stomatitis

This is an inflammation of the mucous membrane of the lips, cheeks and gums and occasionally also of the palate and tongue. It may occur as one of the symptoms of a disease of the digestive organs or general disease; or may be caused by thorns, sharp teeth, rough food, poisonous plants, mercury, fungi, etc.

Symptoms.—The membrane of the mouth is red and inflamed and the animal does not eat because of the pain in chewing. In some forms of this disease there are also swellings and tenderness about the pasterns and cracks and scars on the udder and teats, which makes the dis-

ease look very much like foot and mouth disease. However in foot and mouth disease, the whole herd and also hogs and sheep are attacked, while with stomatitis only a few cattle are affected.

TREATMENT.—Give C.C., in the morning, and I.I., at night, also wash the mouth with HUMPHREYS' MARVEL WITCH HAZEL and water half and half. Give plenty of clean pure water, and only soft or liquid food, such as gruels, mashes, etc.

There is also a form of this disease which attacks calves (calf diphtheria) usually under six weeks old. The mouth is covered with yellow-gray patches and there is high fever, swelled glands about the throat, and great weakness. The treatment is the same as given above, except that as the disease is contagious, the calf must be separated from the other animals and everything that it has come in contact with disinfected.

Boulimia—Excessive Appetite

An unusual increase of appetite is a symptom of a morbid state of the constitution. Though the animal eats largely, greedily, and even shows a disposition for uncommon food, which he takes gluttonously, he may become more and more emaciated. Suitable food should be given; at the same time it should be fresh, and not in excessive quantities, although there is a desire for it. Fresh, cold water should also be given.

Impaction of the Omasum Fardel Bound—Dry Murrain

The first three stomachs of ruminants do not secrete fluids and are dependent for their action on saliva and swallowed liquids. Hence if an animal has not had sufficient water or a fever has dried up the saliva, the food may become dry and caked in the folds of the third stomach.

SYMPTOMS.—There is loss of cud and appetite, the right flank is full and hard on pressure. In slight cases the animal may remain standing, but usually is lying on the left side with nose against the right flank. There is

constipation alternating with diarrhea. The legs and horns are cold and the coat "hide bound." These are the usual symptoms, but sometimes the animal becomes frantic, and rising rushes blindly about often doing itself considerable damage.

TREATMENT.—Give A.A., and J.K., alternately every two hours. In addition to this give a plentiful supply of liquids, such as linseed tea, 2 to 3 buckets daily; also enemas of warm water with a little salt are often helpful. During convalescence the diet should consist of sloppy food with plenty of water and salt.

Irregular Teeth

May be looked for if an animal presents the following symptoms: The beast becoming thinner gradually, and eating less food than usual; slaver dribbling from the mouth along with half-chewed food, especially while the cow is cudding; she is "hoven" or bloated at different times; a bad smell comes from the mouth, arising from ulceration of the side of the cheek, caused by irregular teeth.

TREATMENT.—The mouth must be carefully examined, and all long or irregular teeth must be shortened and smoothed by means of the tooth-rasp.

Gastritis—Gastro-Enteritis—Inflammation of the Stomach

DEFINITION.—Gastritis is inflammation of the mucous membrane of the abomasum, extending, generally, into the duodenum (gastro-enteritis). It is not of unfrequent occurence, and usually accompanies enteritis. (See next section). It is a very dangerous disease, and frequently terminates fatally.

CAUSES.—They are the same as those of enteritis—improper food, musty hay, acrid plants, impure water, etc.

SYMPTOMS.—The beast is heavy, dejected, restless, scrapes the ground with the fore feet, strikes the belly with the hind feet, grinds the teeth, looks around at its flanks and belly, groans, lows; the look is sad, the eyes

red; the ears, horns and feet cold; the muzzle dry; the abdomen somewhat swollen and extremely tender; there is diarrhea and vomiting, and cessation or deterioration of milk, which, when drawn, is thin, yellowish, stringy, and irritates the udder; sometimes it is reddish and offensive. Spasms and colic are occasionally so intense as to make the animal furious. M. Gelle has observed that the most constant symptoms of gastritis are: loss of appitite, arrest of rumination, and abnormal condition of the tongue. If the inflammation be intense, the tongue appears to be contracted, straighter and more rounded than usual, red at the point and along the edges, and the papillæ are elevated and injected. In some intense cases, when several of the viscera are involved, the tongue is yellow or green.

TREATMENT.—A.A., is the first and principal remedy, and may be given, at first, a dose every half hour or hour. As the animal improves, the intervals between the doses may be prolonged, and only at the conclusion, when the animal has become free from the more active symptoms, or they have subsided, the J.K., may be given for the remaining debility of the digestive organs.

No solid food should be given until convalescence sets in. Small quantities of fluids may be given in the form of oat-meal or flour gruel, or water.

Enteritis—Inflammation of the Bowels

DEFINITION.—Inflammation of the intestines, throughout a greater or less extent of their course, and involving all the coats of the intestines or only the mucous lining.

It generally attacks cattle of middle age and robust health; sometimes appears as an epidemic in certain districts, and seems to be most prevalent in hot summers.

CAUSES.—Sudden exposure to cold, or drinking cold water when heated; eating acrid or unwholesome plants; mildewed food; too stimulating diet; drinking impure water; sudden change from poor to rich food; colds, injuries inflicted on the abdomen, the presence of a large number of worms in the intestines; badly managed colic, continuing more than twenty hours, and ending in

enteritis; animals inflicted with colic may so injure themselves by falling or rolling over that this complaint may be the consequence.

Symptoms.—Shivering, dullness, extreme restlessness; frequent lying down and rising again, with signs of pain in the bowels; hard, small and rapid pulse; quickened breathing; hot mouth and violent thirst; red and protruding eyes; pawing and kicking; frequent efforts to urinate, but no water, or only a few drops, are discharged; the pain, which is most intense and constant, is increased by pressure and moving about. The hair is rough, the loins tender, the abdomen swollen on the left side, and incapable of bearing pressure; the bowels are obstinately confined; the fæces hard and glazed with slime; but occasionally liquid dung is forced with dreadful agony through the hardened mass obstructing the lower bowel, and all previous symptoms become aggravated. If the latter disease lasts a few days, and there is a sudden cessation of pain, this is a sign that *gangrene* (mortification) has set in; the feet and ears become quite cold, and after a while the animal falls heavily, struggles convulsively for a brief period, and dies.

Diagnosis.—As the symptoms of this violent complaint resemble, in many respects, those of colic, it may be well to point out the distinctions between the one and the other.

DIFFERENCES BETWEEN COLIC AND ENTERITIS

COLIC	ENTERITIS
The attack is sudden.	The disorder generally comes on gradually.
The pain is intermittent.	The pain is incessant and increases.
The pain is relieved by friction and motion.	The pain is aggravated by friction and movement.
Debility is not a characteristic till near the end of the disorder.	Debility is very characteristic.

Treatment.—A.A., should be given at first, a dose every fifteen minutes, and after an hour, a dose every thirty minutes, and after three or four hours, a dose once an hour, which should be continued until the disease yields; only should there be considerable gas or bloating, or extreme pain, a dose or two of F.F., may be interposed.

Accessory Means.—Hot water is a valuable adjunct in the treatment of the disease. It may be applied externally by steeping cloths in the water, and closely and compactly, but not too tightly applying them to the body and securing them by belts. Hot water may also be given, either as a drench or as an injection. The water must not be so hot as to scald the animal. The administration of A.A., as stated above, and hot water applied copiously to the body of the animal locally, and occasionally in doses of from a half-pint to a pint internally, will constitute the principal features of the treatment at the commencement of an attack. If applications of hot water are used, the animal should be afterwards rubbed dry and well covered with suitable dry cloths.

If discovered in time, an inflammation of the digestive organs will generally yield to the prompt use of the above remedies. Linseed tea, or oatmeal gruel, will form the most suitable diet.

Peritonitis—Inflammation of the Peritoneum

Inflammation of the membrane which invests the abdominal viscera is very similar to enteritis. It is rapid in its course, generally ending fatally in six or eight days.

Causes.—Lesions, contusions, and wounds of the walls of the abdomen; surgical operations, castration, sudden cold, infection while calving.

Symptoms.—Inflammatory fever; the animal shows great sensitiveness when the abdomen is touched, shrinking when any one approaches it, or flexing the painful

part when it is touched; looks around at the seat of pain; generally there is swelling of the belly and tightness about the flanks. The beast rarely lies down, or, if it attempts it, rolls on its back; when standing, it keeps the extremities near the centre of gravity, and bends the back downward. The abdomen is hot, the ears and hoofs cold; the pulse rapid, short and wiry. The termination may be in acute ascites, in adhesions of the peritoneum, or in gangrene, the latter being recognized by sudden cessation of pain, small, weak and intermittent pulse, and rapid prostration.

Treatment.—The cause of the infection must first be removed, and this may require the assistance of a Veterinarian. A.A. is the proper medicine and should be given fifteen drops every half hour as long as there is any hope of a favorable termination. It will do all the good that any medicine can do.

Flukes, or Rottenness

This term is applied to the condition caused by the presence of fluke worms in the liver or bile ducts, where they sometimes exist in large numbers, causing great swelling of the liver.

Cause.—The disease is chiefly developed in low districts, and after damp seasons. The worms are taken in with the food and developed in the liver.

Symptoms.—Depression, sadness, inertness, loss of appetite; watery, red, yellowish, purulent eyes; yellowish tint of all parts not covered with hair; fœtid smell of nose and mouth; hard skin; dull, erect hair; irregularity of excrement, which is white, watery and fœtid.

Treatment.—The principal remedies are A.A., at first, and then, after a day, alternate C.C., with the A.A.; a dose once in three or four hours.

CHAPTER IV.—PART II.

DISEASES OF THE URINARY AND REPRODUCTIVE SYSTEMS

Suppressed or Scanty Urination

This is usually the result of some disease of the kidneys, or a mere symptom of other morbid condition, or it may arise from a paralytic condition of the bladder itself. This condition will generally be promptly relieved by giving a few doses of H.H., twenty drops, at intervals of four, six or twelve hours, according to the urgency of the case.

Inflammation of the Kidneys, Nephritis

This disease has many symptoms in common with cystitis, or inflammation of the bladder, and its treatment scarcely differs. It occasionally occurs in cattle, and may be excited by blows upon the loins, calculi, or small stones formed in the kidneys, or by eating poisonous plants, or the use of strong allopathic medicines.

SYMPTOMS.—The animal brings the fore legs together, bends the back downward, and presses with pain when endeavoring to pass water; the loins are hot, more so than the remainder of the body, sometimes even burning. The rectum is hot, dung scanty and passed with pain. There is a great desire to pass water, but only a few drops escape, which is at first limpid, then thick, and of a deep red color. The gait is stiff, appetite gone, no rumination, but great thirst.

TREATMENT.—Give H.H., a dose of twenty drops, every two, three or four hours, according to the intensity of the disease.

Inflammation of the Bladder, Cystitis

This disease is not so common in cattle as in horses, but may be occasioned by cold or injuries in the region of the loins. It is manifested by the following.—

Symptoms.—The animal constantly keeps the back arched; the walk is stiff, and the animal, when standing, leans against something on one side or the other; frequent effort to pass water, but to little purpose, as only a small quantity, of deep red color, is passed at a time. The bowels are bound, evacuations scanty and passed with pain. There is no appetite or rumination, but intense thirst; the eyes are prominent, and the countenance evinces great distress.

Treatment.—The H.H., will be found perfectly appropriate, and may be repeated, in doses of twenty drops, every three or four hours, until entire relief is experienced.

Hematuria—Discharge of Blood with the Urine

The discharge of blood with the urine is more apt to be a symptom of some other disease, such as Inflammation of the Kidneys or Bladder, or Texas Fever, than to be a disease in itself, although it may occur as such.

Symptoms.—Hematuria usually attacks cattle at pasture on low marshy land. At first the quantity of blood is small, but it gradually increases, and it often forms clots which stop up the passages, causing retention of urine and even bursting of the bladder. The animal grows weak and pale, and sometimes drops of blood are seen on the hairs around the opening.

In some cases the animal appears to recover, but in a little while another attack occurs. The disease usually ends fatally, but only after about two years.

Treatment.—Although this disease is usually fatal, it is not known to be contagious; therefore we advise making every effort to save the animal. Give H.H., twenty drops every four hours at first, and as the disease mends, night and morning.

Parturition

The natural period of gestation is about nine calendar months, or from 270 to 285 days. For a month or three weeks before the time of calving—or, if poorly in condition, two months—the cow should be allowed to dry; otherwise the unnourished calf will be of little value when it is born. If the cow be milked too long, there is also danger of bringing down the new milk and causing puerperal fever, or inflammation of the udder. On the other hand, a cow should not be fed too high. For some weeks, as the time approaches, the food should be limited in quantity, and be given more frequently, otherwise the rumen will be so distended with food or gas as to press upon the uterus, alter the position of the fetus, and thus render parturition difficult.

Cows, when well attended to, calve very easily and require little assistance. For a few days there is a mucous discharge from the vagina; the animal is restless and uneasy; groans, and breathes more quickly; the udder rapidly enlarges; the abdomen drops. The cow should be allowed to be quiet; it is a cruel and dangerous practice to rouse and drive her about. The restlessness soon increases; the cow keeps getting up and lying down; at last she remains on the ground, and, if all goes well, the calf is soon born. The expulsive pains cause the exit of a considerable quantity of fluid, or of a pouch full of serum. When this pouch bursts, the pains increase and the calf is expelled. If there be any difficulty, the fetus may be drawn forward during a pain. The cord breaks of itself, at some distance from the umbilicus. The *after-birth, cleansing,* or *placenta,* is not always passed at once; it may remain for several hours partly or wholly within the womb, causing some danger of fatal consequences; but manual interference should not be allowed till the action of medicines has been found ineffectual for its removal.

Treatment.—The general treatment has been sufficiently indicated in the foregoing. If the labor be

tedious, a dose of A.A., will often help. After two hours, another dose might be given; and in some extreme cases, when the pains have nearly ceased, a dose of the G.G.; will often help.

The animal should be kept in a roomy, well-aired place, free from superfluous litter, covered immediately after calving if the least danger be apprehended; fed sparingly for some days, principally on mashes and small quantities of hay.

The udder should be frequently and well stripped of its contents.

Failure to come in Heat—Sterility

Failure to breed in the cow may occur in two different forms—first impotence, in which the cow fails to come in heat, and second, true sterility, in which, although she came in heat and was bred the service proved unfruitful.

The first of these cases may be due to some malformation of the sexual organs in which case it is incurable; but it is more often due to insufficient or over-feed, or lack of exercise, or over-work, or some depressing disease.

Treatment.—Correct the exercise and feeding, and give G.G., every night for a week, or, if the case is urgent, a dose morning and night, and then a dose daily until the result is manifest.

True Sterility may also be caused by malformations and be incurable, but is more often caused by other things such as a catarrhal condition of the vagina—Leucorrhea or to ardent heat, or insufficient food, or debility from disease.

The Treatment for Leucorrhea or a catarrhal condition of the organs, which may be known by a constant or frequent discharge from the vagina, give G.G., each morning and J.K., at night, and continue this for several weeks, or until she is again served.

In addition dissolve one cake of fresh compressed yeast in a pint of tepid water, then after a few hours, add another pint. Then wash the vagina well with soap and

water and use the dissolved yeast as a douche, this should be done daily for several days.

Where there is an excess of excitement, too ardent or too frequent, or even constant heat, give at first, H.H., a dose morning and night, for two or three weeks, then a dose or two of G.G., and the result will usually be satisfactory.

Where there is unthriftiness or want of good condition, correct the feeding and give G.G., morning and J.K., at night.

Cleaning after Calving

In some cases, from torpidity of the calf-bed, the afterbirth is retained, which may result in very serious consequences.

A dose of twenty drops of G.G., will soon cause its expulsion and the healthy cleaning of the animal. It may be repeated, at intervals of four hours, if necessary.

Flooding after Calving

Some blood is necessarily lost after calving, and it is only when the amount is excessive or continues some time, or threatens to weaken or destroy the animal, that the term flooding can be applied to it. It may be occasioned by injuries received during the process of delivery, or from the calf-bed not sufficiently contracting from atony or want of vigor or that organ.

The symptoms need not be described; any continuous flowing from the bearing, before or after delivery, and especially after the passage of the cleansing, should receive medication.

TREATMENT.—The cow should be kept quiet and be permitted to lie down, and twenty drops of the G.G., be given every hour, or even every half hour, in urgent cases.

Cold injections, cold, wet cloths, applied to the loins, or cold water poured upon the belly, are not necessary, and are not without danger.

Sore Teats

The teats crack into sores, which become painful, and discharge, the contents mingling with the milk; the pain occasioned during milking renders the cow restive, and soon tends to make her vicious and to keep back her milk; garget, hence, is apt to arise from the milk remaining in the udder and causing irritation.

TREATMENT.—HUMPHREYS' VETERINARY OIL is sovereign for SORE TEATS. In bad cases, wash the teats carefully with warm water; and after drying with a soft cloth, apply the VETERINARY OIL, which repeat morning and night, simply oiling the sore places or cracks. Give also I.I., morning and night; and after three or four days the J.K., unless indeed the trouble has not been quite cured by the use of the I.I., and the VETERINARY OIL.

Garget, or Inflammation of the Udder

This is most liable to arise after the first calving, and may be traced to exposure to cold and damp, especially if the cow is in good condition, or from not milking the cow clean, so that the milk remains and causes irritation, or, in some cases, the bag may be wounded by lying upon it.

SYMPTOMS.—A portion of the bag becomes hot, painful and swollen; then hard lumps or "cakes" can be felt in the teats, or in one portion of the bag; other parts of it become affected in the same way; the pulse is full, quick and hard; breathing is quickened; the mouth and horns hot; bowels bound, and other symptoms of fever are present. If the disease is allowed to go on, the fever becomes more severe; the cow does not eat or chew the cud; the swelling, previously hard, becomes soft from the formation of matter; the milk becomes mixed with matter, and, in some cases, with blood. If the disease is not arrested or matter is not let out, it will spread, making its way slowly to the skin, through which it at last bursts, leaving deep, long ulcers, which heal with difficulty, and in many cases a portion of the udder is lost,

as regards its power to produce milk. If this result is avoided by judicious treatment, some hardness may remain, which requires time to remove.

TREATMENT.—Keep the udder well milked out, and give the A.A., in alternation with C.C., and apply HUMPHREYS' VETERINARY OIL. This will generally disperse the heat, hardness and inflammation. But should suppuration have come on, and the abcess point showing a soft spot, lance it, and continue C.C., and VETERINARY OIL, morning and night.

Dropping after Calving—Milk Fever—Puerperal Fever

This disease is of frequent occurrence and quite liable to be fatal, unless under proper homeopathic treatment. It is much more prevalent some seasons than others, owing, doubtless, to peculiar atmospheric conditions, and is more malignant some seasons than others.

There are certain causes which predispose to this disease; thus fat; stall-fed cows are more liable to it than poor or lean ones; the complaint is more common in the variable weather of early spring and late fall; a cow once having the disease is more liable to a return than others. The exciting causes are: exposure to cold and wet; driving the cow a long journey too soon; giving too much or too rich food soon after calving.

SYMPTOMS.—This fever usually begins shortly after calving, usually within twenty-four hours; if three or four days pass over, the cow may be considered safe from an attack. The earlier symptoms are: the cow refuses her food or only eats a little of it; she is depressed, hangs her head and looks dull; the horns are hot; the nose, instead of being damp with healthy dew, becomes hot and dry; the urine is scanty; the bowels are confined, or, if moved, the dung is hard and lumpy; the pulse is quicker and fuller than in health; the breathing is quickened and attended with heaving at the flanks.

To these warning symptoms are added, with more or less rapidity, the more formidable ones, which are often first to attract the attention of the owner. The milk is reduced in quantity or entirely stopped; the eyes glisten and look bright and staring; the white of the eye is covered with numerous red streaks, or is of a leaden color; the eye-balls are thrust forward in their sockets, and give the cow a somewhat wild and anxious expression; the hind legs seem weak, and are separated a little from each other; she appears to stand uneasily upon them, resting for a time on one foot and then changing to the other; this paddling and shifting from one leg to another continues as the difficulty of standing increases, until the animal supports herself by leaning against the stall; she does not chew the cud; all discharge from the bearing is stopped; the calf is neglected; the pulse becomes slower than before, and the breathing more difficult; the udder is hard and swelled, and little or no milk can be drawn from it; gradually becoming worse, the weakness in the hind legs increases, so they can no longer support her; she staggers and sways about, falling, at length, heavily on the ground; she struggles, tries to rise again, and may or may not succeed, but in either case soon looses the power of rising, and lies helpless upon the ground. In this stage of the complaint the symptoms vary. In some cases we have the following: The cow tosses her head from side to side, writhes her body and lashes her tail, struggles, stretches out her hind legs, moans and bellows, and seems to suffer great pain. The breathing is also difficult and labored; the skin covered with clammy sweat; the paunch enormously swollen from accumulated gas. Unless this swelling subsides, the breathing becomes more difficult and labored; the pulse more rapid and oppressed, so as scarcely to be counted; the legs very cold; pain is worse; fetid gas rises from the stomach, and death ensues.

In other cases the foregoing symptoms are absent, or exist only in a slight degree; and we have the following:

The cow lies stretched out at full length on her side, or her head is brought to the opposite side, with the nose towards the shoulder and the chin on the ground; or the head is twisted directly backward, with the nose held out and the horns upon the shoulder, in the most awkward manner. The eyes are dim and glassy; the pupils are dilated, rounded, and do not contract at the approach of light; the ears drop; the mouth is partly open; the lower jaw drops if the head is raised; she has not the power to hold up her head; she has lost the sense of feeling, and can scarcely swallow, if at all; difficult, rattling breathing; pulse weak, slow and intermittent, or even imperceptible; horns, legs and surface cold and chilly; swelling of the belly increases; udder swelled, hard and sometimes red on the outside; in some cases dung and urine suppressed. All these symptoms become worse by degrees, and unless relieved, death ensues generally within two days from the attack, sometimes in a few hours.

Treatment.—The symptoms of this disease appear so suddenly, and run so rapid a course, that if the disease is prevailing, or there is reason from any cause to apprehend it, the cow should be watched about the time of calving, and a dose or two, of fifteen drops, of A.A., should be given soon after. This will act as a preventive, and arrest any premonitions of the disease, and we would counsel its continuance; at least an occasional dose, morning and night, for two or three days. It will favor the early and feverless production of milk.

Should the disease have made its appearance with evident fever, unequal warmth, bloating, suppressed discharge from the bearing, etc., give A.A., a dose of twenty drops, every two or three hours, until the disease is arrested.

Only in the last extremity, with labored breathing, extreme bloating, and entire loss or rapid failure of strength, the I.I., may be alternated with the A.A., at intervals of two hours, in doses of twenty drops, until the system rallies, when the two medicines may be continued at longer intervals.

Nursing and Care.—The cow should be placed in a clean, roomy stall, so as to be allowed to rise and to be attended with facility; laid on clean, dry straw, no dung allowed to remain, and be comfortably clothed, according to the season. The milk should be frequently drawn off and the udder hand-rubbed. She should lie with the fore part of her body higher than the hinder part, or on a level, with her legs under her in a natural position. She must be on her side and supported by bundles of straw, and on no account be allowed to lie out full stretched, in which position she will become worse and surely die. Small quantities of warm gruel are best for food.

There have lately come into vogue "Milk Fever Outfits" by means of which the udder is filled with sterilized air. While there can be no objection to this treatment either alone or in conjunction with the A.A. In our experience the A.A. alone is quite sufficient.

Abortion

Abortion or premature birth may occur from three different causes:

1—Accidental Abortion.—Caused by a blow; strain; slipping on a wet floor, over-strain from pulling a heavy load, etc.

2—Enzootic Abortion.—Due to some infectious disease of the mother.

3—Contagious Abortion.—A distinct disease which causes the death and expulsion of the fetus or its expulsion in a feeble state prior to the normal period.

Symptoms of Threatened Abortion.—In the first three months of pregnancy, the appearance of a bloody, watery or mucous discharge from the vagina. In the later months, uneasiness, swelling, heat and tenderness about the udder; secretion of milk; and straining as if in labor.

Treatment of Threatened Abortion.—Give fifteen drops of G.G., every six hours, and the dose may be

repeated two or three or more times should the threatening symptoms continue after the first or even the second dose has expended its action.

This interval should elapse between doses, as too rapid ones may even defeat the object, by over-excitement of the system, while a single dose often arrests an abortion if permitted to expand its action.

After a cow has actually aborted, it is almost impossible to tell whether it occurred from contagious abortion or from some other cause, so the safe thing to do is to act as if it had been contagious abortion.

Treatment of Contagious Abortion.—The fetus and membranes should be burned. The premises occupied by the sick animal should be disinfected as follows: Remove all bedding and dirt possible and spray all available parts of barn with 3% formalin or 5% carbolic acid solution. Apply white wash containing 1 lb. chloride of lime to 3 gallons of whitewash, scatter quicklime on floor and gutters.

The animal which has aborted should receive daily a vaginal irrigation of two gallons of warm water containing 2% lysol until the vaginal discharge stops. The external parts about the vagina, including the hips and tail, should be washed thoroughly with soap and water and then with the lysol solution as above, twice daily. This should also be done to all exposed pregnant animals in the herd, being careful not to use the same cloth, solution, bucket or attendant, for the well animals that was used for the sick one.

Also give G.G., at intervals of six hours.

Falling and Protrusion of the Womb

After a difficult labor, or when manual help has been injudiciously applied, the womb may be everted or turned inside out. The organ then is partly or quite protruded and appears as a deep red mass covered with smooth red bodies (glands).

In order to replace, the cow should stand with the hind feet higher than the fore feet, the hand of the operator should be wrapped with a soft cloth soaked in warm milk and smeared with HUMPHREYS' VETERINARY OIL, and *gentle pressure* should be *continuously and carefully* applied to the mass until it gradually returns to its proper position. Dry or inflamed parts should be washed in warm milk and kept well anointed with the VETERINARY OIL. Give also A.A., at first every three hours, and later alternate G.G., with the A.A., a dose once in six hours.

Where CASES of SIMPLE PROTRUSION OF THE ORGAN occur without retroversion, give A.A., morning and G.G., at night, feeding light easily digested food, which will be effective.

CHAPTER V.—PART II.

MECHANICAL INJURIES

Burns

Injury to the skin and sub-cutaneous tissue by any hot body requires careful treatment, not only because of the local damage, but also because of possible injury to the system.

The air must be excluded as much as possible; and the less the injured part is disturbed the better. It will be found advantageous to apply one piece of linen, smeared with HUMPHREYS' VETERINARY OIL, next to the wound, so that it may not be necessary to remove it; then over that a piece of several thicknesses, which may be removed for the purpose of applying the VETERINARY OIL. Often the part may be so situated that the plaster or covering cannot be conveniently kept in place; then the only application will be the VETERINARY OIL, simply applied with the end of the finger, so as to keep the sore or burned place moist. Slight superficial burns require only the application of the oil as above. During the healing, simply apply the VETERINARY OIL.

Give, also, for extensive burns, or deep burns, or scalds, the A.A., every two or three hours at first, then morning and at night. In extreme cases, or with extensive ulcerations, give I.I., in alternation with A.A., after the first fever has subsided.

Contusion—Bruise

Is defined as an injury inflicted on the surface of the body by mechanical violence, without laceration of the skin. It may be slight, involving only the rupture of minute vessels, or it may tear the muscular fibres, or wound a large blood vessel.

CAUSES.—Blows from sticks; butts from horns; pressure of the yoke on draught oxen.

TREATMENT.—For slight affections of this kind, in the nature of a bruise, bathe the part with HUMPHREYS' MARVEL WITCH HAZEL, three or four times per day, and as often give a dose of the B.B. This will soon remove the lameness and stiffness and restore the part, as well as ward off injurious consequences. The administration of the B.B., should never be omitted in these cases.

Sprains

These injuries affect the ligaments that connect the joints, and are caused by false steps, slipping, or by forcibly twisting or contorting the joints to an extent beyond that permitted by the natural limitations of flexion.

Sprains happen to various members—the coronet joint, the fetlock, the shoulder, etc. The pain, swelling and inflammation which accompany these accidents are proportioned to the extent of the injury.

GENERAL TREATMENT.—This consists in affording rest to the limb, mitigating the pain and subduing inflammatory action. Also apply to the part, when you know where it is, HUMPHREYS' MARVEL WITCH HAZEL, but in all such cases give the B.B., for strains, lameness, etc., a dose at first, four times per day, and later, morning and night.

Sprain of the Shoulder.—Draught oxen are particularly subject to this affection, which is caused by excessive exertion in drawing, false steps, slips or external violence.

SYMPTOMS.—There is heat, pain, stiffness and imperfect mobility of the limb; the animal trails it with evident pain; does not raise it easily over any obstacle; when standing, rests the weight of the body on the opposite side.

TREATMENT.—Give the animal rest, and a dose of the B.B., three times per day.

Sprain of the Haunch.—Inability to move the hind quarters and extremities is due to the same causes as sprain of the shoulder.

Symptoms.—Limping and dragging the hind legs; when standing, the beast keeps them apart. In severe cases it can neither stand nor walk, but falls down, unable to rise. Sometimes the lumbar region is hot, swollen and painful.

Treatment.—The same as for other sprains. Give a dose of B.B., three times per day.

Sprain of the Loins.—The causes, symptoms and treatment of this affection are much the same as for sprain of the haunch.

Other Means.—In some sprains it will be advisable to precede the medicinal treatment by applications of warm water, and afterwards to dry the parts with a cloth before applying Humphreys' Marvel Witch Hazel or Humphreys' Veterinary Oil. After the swelling has subsided, the animal may only very gradually return to its accustomed work. Give, always, a dose of B.B., morning and night, or even three times per day.

Choking

Foreign bodies in the œsophagus—obstruction of the gullet. Roots that have not been cut into small pieces before they are given to the cattle are sometimes swallowed, especially if the beasts be very hungry. There is no doubt about the symptoms, as the body may often be felt externally, while difficulty of breathing, and violent action of the muscles of deglutition, with a view to expel the intruder, indicate what is the matter. Prompt action is necessary, as the animal, if not relieved, becomes hooven or wind blown.

Treatment.—If the obstruction be near the top of the gullet, it may be removed by the hand put through the mouth and protected by a common balling-iron.

Try also pouring some oil or thin grease into the gullet through a horn inserted into the mouth.

A pinch or small spoonful of coarse gun-powder put far back *under the animal's tongue,* will often cause a violent regurgitation or vomiting, which brings up the offending substance.

Give also F.F., every half hour, if the animal is bloated or distressed with wind, or the J.K., if suffering from indigestion.

If it be too far down the œsophagus for removal in this manner, the obstruction must be pushed into the stomach. For this purpose a probang must be carefully used. A good, common probang, which will not lacerate the gullet, may be readily made from a piece of firm rope, from half-inch to an inch in diameter and four or five feet long. Wind the end of this from two or three inches down to near the end with firm, strong twine, so as to make a firm square, not pointed end. Secure the twine carefully in the strands, so it will not unravel, or yet better, wind the ends of the cord along in the strands of the rope to the handle. Then smear the bulb and rope with lard, and pass the probang down to the obstruction, and, using it like a ram-rod, drawing it back but a few inches at a stroke, you can readily drive down the obstruction, without danger of lacerating the gullet, as you are in great danger of doing by using a "rakestail" or other piece of stiff wood, causing the death of the patient.

Wounds

Animals are often exposed to wounds, which differ in character and importance, according to the manner in which they have been produced, the extent of the injury, and the part wounded.

Incised Wounds are produced by instruments with sharp edges; these wounds have no jagged edges, and heal most rapidly.

Stab Wounds may not appear very considerable on the surface, but may be very serious, as important parts may have been injured. If a bowel has been cut, blood

is generally discharged from the anus, or the contents of the bowel escape through the external wound. If the parts around a stab wound soon begin to swell, blood-vessels and intestines have probably been injured, and extravasation of blood takes place.

Lacerated Wounds are caused by rough and blunt bodies, have a jagged and uneven appearance, and, although large and important blood-vessels have been divided, in general there is but little bleeding.

TREATMENT.—If dirt, wood, glass, sand, shot, or any other substance have got into the wound, remove them by a sponge and cold water; in some cases a syringe may be required for this purpose. If there is much bleeding, this must be arrested by using a sponge dipped in cold water, or with HUMPHREYS' MARVEL WITCH HAZEL or HUMPHREYS' VETERINARY OIL, and gently pressed upon the wound. If *arteries* have been severed, they will have to be grasped with a pair of forceps, and drawn slightly and gently forward, so that they may be securely tied by means of a strong ligature of silk. You may know an artery has been injured by the blood being bright red and coming in spurts. The healing of *cut-wounds* is facilitated by bringing the edges together by means of adhesive plaster, or by stiching them. Before sewing up a wound, the bleeding should have ceased, and the operator must be careful that all foreign bodies, loose shreds of tissue, and clots of blood are carefully removed; otherwise inflammation will be produced, and the stitches will have to be removed. The sides of the wound should first be placed closely together, as before injury; each thread should be tied by itself, so that if one stitch breaks out, others may remain undisturbed. Well-waxed silk or strong thread should be used, and as many stitches inserted as may be necessary to unite the edges of the wound.

Give A.A., and apply the VETERINARY OIL in all cases of injury.

Caries of the Bones

SYMPTOMS.—Swelling of the bones; great tenderness to the touch; frequently a suppurating wound. The disease is very serious, and very difficult to cure.

TREATMENT.—You may give the J.K., each morning, and the I.I., at night, with advantage.

Fractures

Horns.—When a cow breaks a horn there is considerable hemorrhage, which should be arrested by applications of HUMPHREYS' MARVEL WITCH HAZEL. If the horn be warm, it is just possible to restore it by immediately putting it in its place and fixing it there with bandages. The animal should then be tied up to a ring, by itself, so that it cannot rub against anything. The stump, or replaced horn, should be wrapped in cloths after being well covered with HUMPHREYS' VETERINARY OIL. B.B., should be given internally, once or twice per day.

Bones.—The *ossa ilium*, or flank bones, are most liable to fracture.

TREATMENT.—In fractures, wherever situated, it is indispensable to keep the part at rest as much as possible; consequently most fractures incidental to cattle admit of no efficatious treatment. In simple fractures, where the proper splints and bandages can be applied, recovery may ensue.

Poisonous Plants

Cattle sometimes eats poisonous plants, such as acrid buds of oak, twigs of yew, the water hemlock, and others, and consequently suffer and die. Unless it is known that they have had access to such plants, it is not always easy to determine the nature of the disorder from which they are suffering. If there be suspicion of poisoning, the following treatment may be pursued, when the symptoms seem to indicate it.

SYMPTOMS.—Torpor; refusal of food; excessive thirst; distention; the animal shows signs of great agony, grinds its teeth, stamps, paws the ground, strikes its flanks, rolls on the ground, as if with spasms or colic. Sometimes there is great fury, ending in torpor, paralysis, death.

TREATMENT.—The stomach-pump should be employed; water thrown into the rumen till vomiting ensues. This should be repeated till the stomach is emptied.

In general, however, and unless the animal be very valuable and the circumstances favorable, such means are not available, and you can only give the F.F. and J.K., in alternation, one dose every half hour, or hour, according to the urgency of the case.

Eczema

Eczema is a disease of the skin and in general appearance is much like mange, but is unlike mange in the fact that it is not caused by parasites, and therefore is not contagious.

Several forms of eczema are observed in cattle.

1—An acute form which attacks the legs; there is dullness and loss of appetite, followed by swelling, stiffness and elevated points of hair on the legs.

2—There is a chronic form attacking various parts of the body with loss of hair and crusts.

3—There is still another form caused by eating too much potato pulp, this attacks the legs with redness, swelling, crusts and general loss of condition.

Eczema may be told from mange by the absence of the parasites, which in cattle can usually be seen by the naked eye; also in mange the itching is much more intense than in eczema.

TREATMENT.—First clean the sores, removing all dirt, scabs, etc. For this purpose, olive oil is better than water, as soap and water are apt to cause further irrita-

tion. Apply Zinc Ointment night and morning. Give A.A., three times per day, for two days, then I.I. instead of A.A.

Warbles

This is often seen on cattle in February and March. It consists of a number of roundish swelling from five to twenty in number, usually on the back and sides. The swellings are sometimes as large as the closed fist.

During the summer months the gadfly lays its eggs on the skin of the cattle, especially just above the heels. The cattle bite these places and swallow the eggs; which hatch into larvae and make their way through the body to the skin, where they form these swellings. The swellings suppurate and form a small hole, through which the larvae breathe and later escape. After the larvae have escaped the swellings subside.

Treatment.—Warbles may be prevented by keeping the cattle from swallowing the eggs. Either by brushing off the legs, or by applying kerosene oil, or a 3% solution of creoline, or one of the proprietary products for keeping flies off cattle. This should be done night and morning during July and August.

The larvae may be killed as soon as the hole is first formed; by injecting kerosene oil from an ordinary oil can into the aperture, or by covering the hole with thick grease, which prevents the larvae from breathing When the larvae are killed the swelling usually soon disappear.

PART III.

Diseases of Sheep and Goats

When a number of Sheep or Goats, or a flock, are to receive medicine, the best and most economical, as well as efficient method, is as follows: Procure a new or perfectly clean pint bottle and cork, fill it two-thirds full of pure water, to which add a *large spoonful, or sixty drops,* of the proper remedy, SHAKE IT THOROUGHLY, so as to perfectly medicate the whole mass. Of this a dessert spoonful is a dose for a sheep or goat. Paste a proper label on the bottle and use it only for that remedy, so as to prevent mistake or confusion.

CHAPTER I.

GENERAL DISEASES

Black Leg

Known as *Quarter Ill,* or the *Black Spauld* of the English Shepherds, or as one of the "Murrains" of this country. It affects young and thrifty sheep, and is rarely found in old and poor stock. It is most common in wet seasons, in the early spring or summer and fall, and when the feed is very luxuriant. The sheep gorge themselves with the rich vegetation, and the digestion being over-taxed, the system is disorganized and the sheep suddenly droop and die. On examination, the wool leaves the skin at the slightest touch, and the body is found to be swollen and blackened in large patches, chiefly on the hind or fore quarter. Air is infiltrated under the skin, and the carcass seems already decomposed and full of black blood. On examining the flock, some will be lame or limping, the eyes red, and the mouth and tongue inflamed and blistered, and on passing the hand over the sides or quarters, they will be found swollen, the wool readily coming off, and a crepitation be heard from the confined air beneath. The urine is dark, the bowels constipated and dung bloody. After a time the animal is unable to stand, and falls upon the side; stretches out the limbs and in a few hours is dead.

The disease is worse on moist, rich bottom lands, and is rare on dry hills or gravelly soils. To prevent the disease, such soils and localities should be avoided, and the sudden changes from poor to such rich and succulent and abundant pasturage.

Treatment.—The disease is incurable, and diseased animals should be killed at once, the bodies burned and the premises disinfected as given under Abortion, page 122. The healthy animals should be moved to another pasture and the infected pasture burned off the following winter, this destroys the germs in that pasture.

Cattle may be rendered immune to Black Leg by vaccination. The vaccine with directions for its use is given away to stock owners by the Chief of the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C.

Foot and Mouth Disease—Eczema Epizootica

Definition.—An acute, contagious fever, characterized by the formation of vesicles and ulcers, chiefly about the mouth and hoofs, etc. The eruptions appear on the mucous membrane of the mouth, on the fetlock, and in the cleft of the hoofs, and not unfrequently as a eruption on the udder. The disorder chiefly prevails among cattle and sheep, but under favoring circumstances, also attacks other domestic quadrupeds, and even man.

Causes.—It appears as an epidemic, and spreads exclusively by contagion. The precise nature of the germ is unknown, but it is chiefly limited to the contents of the vesicles, the secretion of the ulcers, the saliva, the blood and the natural secretions and excretions, of the diseased animal; and these convey the disease. The predisposing causes are exposure to cold, wet, currents of cold air, poor fodder, want of cleanliness and good housing; and anything that tends to lower the constitutional vitality. The activity of the virus is preserved for many months. The poison may be conveyed by the clothes of herdsmen and other persons, by manure, tools, fodder, by grass and ground previously trodden by diseased animals, and milk to suckling calves, indeed by almost anything. It finds its way into the system in various ways, not depending on any wound for admission. The communication to

man is by drinking the milk of diseased cows. A second attack is rare.

Symptoms.—After a period of incubation, lasting from three to six days, the animal is seized with a shivering fit, and appears dull and stupified. A vesicular eruption soon appears on the mouth, the hoofs, and the teats. Suckling lambs, have a similar eruption on the mouth and throat, with irritation of the whole alimentary canal, attended with inability to suck, and exhausting diarrhea. The eyes are then observed to be dim, watery, congested; the muzzle, ears and horns alternately hot and cold; shivering ensues; rumination is diminished; the milk is less in quantity, yellower and thicker than usual, and much deteriorated in quality; the bag swollen, tender, hot; the back arched; the coat staring and harsh; the pulse somewhat accelerated; the temperature moderately elevated, reaching 102°, or even 104°; the eruption in the mouth is first seen on the inner surface of the upper lip, the edge of the upper jaw where there are no teeth, on the tip and edges of the tongue, and is indicated by salivation, by pain and loss of power in taking and eating food. The vesicles occur on the mucous membrane, singly or in patches, first as little red spots, then as whitish-yellow, slightly turbid blisters, about the size of a bean, at first transparent, but subsequently filled with a puriform fluid. These vesicles burst in about eighteen hours, discharge their fluid, leaving behind shallow ulcers, which often run together and then form deep and ragged ulcers. The lips, cheeks, tongue, and sometimes the Schneiderian membrane, are affected. The eruption on the feet is first seen around the coronet and in the interdigital space, especially of the hind legs; and the resulting vesicles burst quickly, because of the animal's movements. The animal evidently suffers intense pain, is lame or unable to stand, and moves reluctantly or cautiously; the hoofs swell; the vascular secreting membranes become inflamed; the hoofs are cast; the bones may become diseased; and serious mischief may ensue. The eruption on the udder turns to vesicles, as in the mouth, and, when the fluid dries or escapes, thin scales

are formed. The teats are swollen and sore. In exceptional cases, a vesicular eruption appears on the muzzle, the mucous membrane of the nostrils, the conjuctivae of the eyes, and the mucous membrane of the vagina.

In favorable cases, the fever subsides about the fourth day, the eruption declines, the appetite returns, and in seven to fourteen days the animal recovers. But complications are not uncommon. And in unfavorable cases the fever is high, the ulceration increases, the animal suffers from exhaustion, wasting, discharge of stringy, bloody mucous from the mouth, and of offensive matter from the nostrils; the face is swollen, the breath foul, the respiration rapid and grunting; the pulse small, weak, rapid; the blood becomes impure; the belly and legs œdematous; the hoofs slough off; diarrhea supervenes, and death follows about the ninth or tenth day.

Prognosis.—This is unfavorable—The United States Government and the Health Officers of the several States require all suspected cases of Foot and Mouth Disease to be quarantined, and upon the full development of the disease all animals infected to be killed. Human beings are liable to become infected, great care should be exercised in handling diseased animals or their carcases.

Liver Rot—Liver Fluke Disease

This is a very destructive disease and causes much loss to sheep raisers each year.

It is caused by a small worm called the Distoma; which is swallowed by the sheep in water or on grass and which makes its way to the liver, where it lives. These worms only exist in low damp land, high dry pastures are free from them.

Symptoms.—The sheep becomes dull and listless, followed by loss of flesh and strength, the wool comes off easily. The loss of strength continues and death usually ensues.

Treatment.—Since the worms only exist for any length of time in low damp land; and high dry pastures are usually free from them; the sheep should be removed to the dry pastures. Rock salt should be given freely to the infected sheep. There is no known cure for this disease.

DISEASES OF THE NERVOUS SYSTEM

Encephalitis, Inflammation of the Brain

This disease may arise from internal causes, but more frequently from sun-stroke, blows upon the head, too plentiful food, etc.

SYMPTOMS.—The animal ceases to eat; hangs its ears and head, which are hot to the touch; walks along staggering, unconscious whither it goes; the eyes are bright and red and projected from the head; the air it expires is hot; the breathing short, rapid and accompanied with violent beating of the flanks; it remains lying down, head stretched on the ground, and, as the disease draws to a close, it ends in convulsions.

TREATMENT.—Give A.A., a dose of three or five drops every hour, during the height of the disease, and then at longer intervals as the case improves.

Apoplexy

In consequence of that plethora, which is the result of over-feeding in fattening, sheep are quite liable to apoplexy, and when in this condition they are driven rapidly some distance in warm weather, they are quite liable to a fit of this disease.

SYMPTOMS.—Generally there are some symptoms which indicate that an animal is about to have a fit of this very frequent complaint. These are: Dullness; frequent standing still, or remaining behind the others, the breathing is quickened; it seems sleepy and unaware of what is going on around; the eyes appear as if they were blind; the pupils are reddened and nostrils dilated; pulse is quick and hard; the membranes of the nose and eyes are red; then, from standing fixed as it were in one place, it staggers and falls; then is violently convulsed, and, unless relieved, death speedily ensues.

TREATMENT.—The A.A., if given before the convulsion, a dose of three or five drops, will often arrest its farther progress. If the fit has taken place, give the medicine at once, and repeat the dose again after the animal gets over it, should it survive the fit.

Louping Ill

This disease is more common in the spring of the year when it attacks sheep and particularly lambs.

It begins with twitching and tremblings; sometimes even convulsions. The animal falls and may even leap into the air. This is later followed by paralysis of part of the body, and the head being drawn to one side.

This disease is due to bacteria which are transmitted to the sheep by the grass tick. No cure is known. Diseased sheep should be killed and the rest of the flock dipped for Scab, as on page 211.

Trotters—Nibblers

This is a disease somewhat like louping ill but appears to be heriditary.

SYMPTOMS.—The sheep trembles when touched and walks with a peculiar gait, raising the feet high (Trotters). Later there appears to be an itching, since the animal rubs and bites its hind quarters (Nibblers). This is followed by wasting, paralysis and death.

TREATMENT.—There is no known cure and diseased animals should be slaughtered and not bred from.

Epilepsy—Fits

In sheep, this disorder frequently occurs on a fine, cold morning in spring, early summer and autumn, within an hour or two of daybreak. On rising from its bed, the animal stares, staggers, falls, struggles convulsively for a few minutes, kicks, rolls its eyes, grinds its teeth, foams at the mouth, and sometimes involuntarily voids dung and urine. After a few minutes, or perhaps half an hour, the fit subsides, the animal rises, seems semi-conscious, presently begins to eat, and appears to be in good health. These fits may occur daily, and then will soon become

fatal; or, by occasional repetition, they may wear away the creature's flesh and strength.

TREATMENT.—A few doses of A.A., on the day of attack, followed by a dose of A.A., each morning, and of J.K., each night, are the proper remedies. A change of pasture and shelter should be provided.

Rabies—Hydrophobia—Madness

When a mad dog has entered a fold, it is often difficult to determine which sheep have been bitten and which remain untouched. Careful examination, one by one, should be made; still uncertainty remains. The symptoms appear from two to ten or twelve weeks after attack, and are similar to those which appear in other animals. The sheep annoy and chase each other, cease to feed, lose flesh, are restless, and manifest strong and unnatural sexual desire. Ewes become stupefied and paralyzed, and die, often without a struggle. Lambs have convulsive fits, terminated by death. Rams and wethers, butt their heads against the ground, palings, banks and one another; running full tilt, with great violence and frequency, so as to tear the skin from their foreheads. They usually die in from 3 to 6 days.

TREATMENT.—A.A., should be given every day, to all the flock, for a few days, then once a week for several weeks. If an animal develops the symptoms it should be killed at once, since there is no known cure. However few animals or persons bitten by supposedly mad dogs ever develop the disease.

Dizziness, Staggers, Sturdy, Turn-Sick, Gid.

This is a very dangerous and not infrequent disease. Its immediate cause is the presence of a small worm, inclosed in a hydatid or sack of fluid, and located either within the substances of the brain, or beneath the bones of the cranium. These hydatids vary in size, number and position, being found on the right or left side, indicated by the animal turning to the right or left, or in the centre of the median line, in which case it may turn to either side, or not at all, the animal carry-

ing the head down. When the hydatid occupies the back of the head, the animal holds the head high, and runs straight forward, throwing itself on any object it meets.

Symptoms.—As above indicated, the symptoms consist of various forms of turning, whirling around or standing still, etc. At first, when the hydatids are small, there may be but little or nothing to indicate their presence; but as they grow larger, they press upon the bone, and even enlarge or remove a great portion of it. One side of the head may be enormously enlarged, or the bone become quite thin, so that the situation of the cyst may be thus known, and sometimes a small hole may be discerned. The sacks are more frequently on the left side.

The first effects are: dullness, loss of spirits; they chew the cud slowly and carelessly; they keep aloof from the other sheep; they stagger when walking; stand before a pool of water looking into it, and sometimes tumble in and are drowned; sometimes when eating they appear as if frightened, and run over the field as if pursued; the head is held higher or lower, or carried on one side; the body, in moving, inclines to the same side; the sheep appear to wander about, and gradually lose flesh and strength; then they begin to turn round and round to one side; seem quite unconscious of everything around them; the round and round movements increase until they are almost constant, and the animal at length dies.

Treatment.—Puncturing through the skull into these cysts, when their presence is known by the swelling, is sometimes successful if the precise point is known and no other exists. Give A.A., a dose of two or five drops every night at first, and then at longer intervals. Few sheep treated survive and unless the animal is very valuable for breeding, it is better to slaughter as soon as the disease begins to appear. Although this disease is very hard to handle after it gets started, it can be easily prevented. The worm which gets into the brain is the larvae of the tape worm of the dog, which the sheep gets from eating grass soiled by the dogs feces. The dog in turn gets this worm from the sheep by eating the brains which contain the larvae. The remedy therefore is simple. Don't feed uncooked sheeps brains to dogs.

CHAPTER III.—Part III.

DISEASES OF THE ORGANS OF RESPIRATION

Cold, Catarrh

The nose and air-passages are lined with a delicate membrane, whose office it is to secrete a thin mucous which lubricates the parts. Under the influence of a chill, suppressed perspiration, etc., this membrane becomes irritated, inflamed, and the discharge arrested, or it is thickened, increased, or variously modified.

The symptoms usually are, the sheep is not so lively as usual; he eats little or no food; he coughs and sneezes; a watery discharge flows from one or both nostrils, and also from the eyes, which are red and swelled.

In the more severe form, there is a chill, warm skin, quick pulse, frequent and somewhat difficult breathing, sore throat, pain in the throat when pinched, frequent cough, rough coat, bound bowels, red eyes, and red and dry nose; tears flow freely, and little or no food is eaten —all symptoms indicating a catarrhal fever. As the animal improves, the discharge from the nose becomes white or yellowish, and more profuse.

Treatment.—When the disease commences with a chill, or any considerable degree of fever is present, give fifteen drops of the A.A., and repeat it several times, at intervals of one or two hours. Then alternate the E.E., with the A.A., at intervals of two or three hours, until the disease is broken up.

Cough

This is usually a symptom of some primary, disorder, on the cure of which it will disappear. It may, however, be a passing irritation. A persistent cough is suggestive of serious ailment, and, without delay, give the E.E., and you may save the animal.

Laryngitis

Laryngitis, or inflammation of the lining membrane of the windpipe, is due to cold, changeable weather, etc. It is distinguished from bronchitis (see next section) by a characteristic *ring* in the cough. The open mouth, with outstretched head, indicates difficulty of breathing and a sense of suffocation. This frequently ensues from thickening of the membrane and closure of the *rima glottidis,* or entrance to the windpipe. A.A., a dose two or three times per day, is the treatment.

Bronchitis, or Inflammation of the Bronchial Tubes

This disease is usually the result of exposure to cold and wet, or sudden changes of temperature; it is almost always preceded by a common cold, which has been neglected or overlooked.

Symptoms.—Cough, which becomes by degrees more painful, frequent and husky; the countenance becomes anxious and distressed; the breathing is quick, heaving and obstructed, in consequence of tough, tenacious phlegm; unwillingness to move; the breath is hot; the cough is increased by moving about, occurs in fits, and is wheezing in character; no food is eaten; the animal wastes; skin becomes dry, and is bound to the ribs; the coat stares and looks unthrifty. The animal may die from extension of the disease to the substance of the lungs.

Treatment.—The earlier stages of this disease, or catarrh, should be treated at once, as directed under that head. Then a dose or two of the Remedy for that disease removes all danger.

Remove the animal to a warm but well-ventilated stable, and feed on warm mashes and gruel.

Give first, at intervals of two hours, two or three doses of the A.A., twenty drops at a dose. This will allay the heat and fever to some extent. Then alternate, at intervals of three hours, the E.E., with the A.A., the

same doses, and continue this treatment until restored, only that the medicine need not be given so frequently after improvement has progressed.

Pneumonia—Inflammation of the Lungs

This disease may be caused by exposure to cold and wet; too severe weather; sudden changes of weather; cold nights and mornings and hot middays, are apt to induce it.

Symptoms.—Want of appetite; loss of the cud; dull, staring eyes; ears are hung down; the head is held up; the mouth open; breathing quick, labored and difficult, with heaving of the flanks; grating of the teeth; inside of the nose and white of the eyes much reddened; a discharge, at first thin and watery, afterwards mattery and offensive, flows from the nostrils; frequent painful cough, attended with rattling in the throat. These symptoms gradually become more and more severe, until the animal dies.

Treatment.—The A.A., will generally be found sufficient. Give a dose of five drops every two hours. Should the disease not yield in a day or two, the E.E., in doses of five drops, may be alternated with the A.A., every three hours.

DISEASES OF THE ORGANS OF DIGESTION

Tympanitis—Hoove—Blown—Maw Bound

This disorder—is of two kinds; one due to the evolution of gas from the food taken, the other to the impaction of the food. In one case the gas produces enormous inflation of the rumen, or first of the four stomachs possessd by sheep, in the other, distention.

DIFFERENCES BETWEEN DISTENTION FROM GAS AND FOOD

DISTENTION FROM GAS	DISTENTION FROM IMPACTED FOOD
The left flank, on pressure, feels soft, elastic and yielding to the fingers. On percussion, sound hollow and drum-like.	The left flank, on pressure, feels solid; does not yield readily to the fingers. On percussion, or on being struck, sound dull.
Frequent belching; the wind which escapes has an offensive smell.	No belching or eructation of wind.
Respiration quick, short and puffing.	Respiration not much interfered with.
Position standing; head stretched forward, unable to move; moans, and appears in great distress; eyes red and staring.	Position lying down, and is with difficulty induced to move; looking dull and listless.

Treatment.—This is the same whether the distention is from gas or impacted food. F.F. may be given, a dose every quarter or half hour. We give the method of puncturing, which, however, need never be resorted to if the F.F. be administered.

Puncturing.—Relief is sometimes very urgently required, and this is best afforded either by plunging a trocar into

the left side, or by passing a probang down the œsophagus into the paunch. If the trocar is used, let the canula of the instrument be ten or twelve inches long, so as to prevent the paunch from slipping away from the canula and causing delay, and perhaps further danger. *Chloride of Lime* is valuable after the animal is somewhat relieved by the use of the trocar; about two drachms should be mixed with a quart of water. In case of immediate relief being imperative, and a trocar not being at hand, a long, sharp-pointed pen-knife may be used for puncturing. The place for puncturing is midway between the hip and ribs, where the distended rumen is prominent; the direction is inward and downward. The puncture will be followed by an outrush of gas, fluid, and even portions of food. A quill, or some other tube, must be ready to be inserted in the hole immediately after the knife is withdrawn, otherwise the wound will close. If nothing tubular be at hand, a smooth piece of stick must be put in, or anything else that will serve the purpose of keeping open the wound till the gas has escaped. The danger of this operation is not from the wound itself, but from the escape of the contents of the paunch into the abdomen, which would cause peritonitis, or from piercing the spleen or kidney. The operation can only be regarded as a rough one, to be adopted in case of great emergency.

When distention has ceased and matters have to some extent resumed their ordinary course, the animal should remain some hours without food or water. The food afterwards should be sparing and suitable.

J.K., should be administered two or three times daily until the animal is fully recovered.

Colic—Gripes

This disease is not common in sheep; but lambs overfed with milk, or with relishing herbs, or pastured in rank or acrid grass, are subject to it (see following section on enteritis).

TREATMENT.—F.F., a dose every half hour until relieved.

Enteritis, Inflammation of the Bowels

This disease is manifested by the following symptoms: Violent and constant pain in the bowels, producing at first uneasiness, and then rolling about on the ground; the sheep almost constantly getting up and lying down again; it sometimes lies on its back, the ground is pawed, the belly struck with the hind feet, etc. These symptoms of pain are attended with confined bowels, quick pulse, cold legs and nose; the belly is tender when pressed upon.

DIFFERENCES BETWEEN COLIC AND ENTERITIS

COLIC	ENTERITIS
The attack is sudden.	The disorder generally comes on gradually.
The pain is intermittent.	The pain is incessant and increases.
The pain is relieved by friction and motion.	The pain is aggravated by friction and movement.
Debility is not a characteristic till near the end of the disorder.	Debility is very characteristic.

Treatment.—The A.A., is the appropriate remedy for this disease, and may be given, five drops every one, two or three hours, according to the urgency of the disease.

In cases of extreme distress it may be alternated with the F.F., at intervals of a half hour or hour, until relieved. But usually the first named Remedy will be quite sufficient.

Diarrhea

Purging is most common in spring, and is then occasioned by fresh grass, to which the flock are unaccustomed; lambs are subject to a severe and often fatal form of this complaint, caused by the irritation of grass eaten for the first time. In some instances it may be occasioned by cold or by a peculiar irritation of the mother's milk.

SYMPTOMS.—The disease is manifested by discharge of various colors, and sometimes very profuse. It is accompanied with loss of appetite and wasting of flesh.

TREATMENT.—If the discharge is merely the effort of nature to rid the system of some hurtful substance, it will require no interference. But if it is excessive or wasting, three or five drops of the F.F., given morning and night, will usually be sufficient to arrest the disease.

Flukes, or Rottenness

This term is applied to the condition caused by the presence of fluke worms in the liver or bile ducts, where they sometimes exist in large numbers, causing great swelling of the liver.

CAUSE.—The disease is chiefly developed in low districts, and after damp seasons. The worms are taken in with the food and developed in the liver.

SYMPTOMS.—Depression, sadness, inertness, loss of appetite; watery, red, yellowish, purulent eyes; yellowish tint of all parts not covered with hair; fœtid smell of nose and mouth; hard skin; dull, erect hair; irregularity of excrement, which is white, watery and fœtid.

TREATMENT.—The principal remedies are A.A., at first, and then, after a day, alternate C.C., with the A.A., a dose once in three or four hours.

Constipation

This is rarely of grave consequence, and when it exists, is usually a symptom of some other disease. When present, a dose of twenty drops of the J.K., given morning and night, will soon set all right again. If there is suspicion of some inflammatory condition lurking in the system, the A.A., in like doses, will have the like effect.

Dropsy

Is known as the accumulation of water or serous fluid in the abdomen. It is usually the result of inflammation of the peritoneum or lining membrane of the abdomen.

It may be known by the large and pendulous condition of the belly, and by percussing or striking one part of the belly, while the other hand is held against another part, when, if water is present, the fluctuation is easily perceived. It is caused by any exposure or food that will produce the original inflammation.

TREATMENT.—Give five drops of the H.H., three times per day.

Founder

Sheep are occasionally foundered from similar causes which produce it in other animals. It is manifested by the following symptoms: It walks slowly; head depressed; has no sprightliness; poor appetite, but great thirst. After a time this slowness of walking becomes a rigidity, so that it requires great effort for the animal to lie down or get up again. The appetite diminishes and thirst increases. In the more advanced stages, the eyelids are swollen, the eyes more or less inflamed, and the feet extremely hot; still farther advanced, there is no appetite, feet are burning and hot, the animal is in so much pain from movement that it will only walk to satisfy its raging thirst. It drags itself along often on its knees rather than walk. It moans and groans, there is severe fever, short breathing, and severe beating of the flanks.

TREATMENT.—B.B., three drops, three times per day, or morning and night if the case is not urgent. If there is heat or fever, the A.A., may be given as an intermediate remedy.

CHAPTER V.—PART III.

DISEASES OF THE ORGANS OF GENERATION

Abortion

Abortion or premature birth may occur from three different causes:

1—ACCIDENTAL ABORTION.—Caused by a blow; strain; slipping on a wet floor, etc.

2—ENZOOTIC ABORTION.—Due to some infectious disease of the mother.

3—CONTAGIOUS ABORTION.—A distinct disease which causes the death and expulsion of the fetus or its expulsion in a feeble state prior to the normal period.

SYMPTOMS OF THREATENED ABORTION.—In the first three months of pregnancy, the appearance of a bloody, watery or mucous discharge from the vagina. In the later months, uneasiness, swelling, heat and tenderness about the udder; secretion of milk; and straining as if in labor.

TREATMENT OF THREATENED ABORTION.—Give fifteen drops of G.G., every six hours, and the dose may be repeated two or three or more times should the threatening symptoms continue after the first or even the second dose has expended its action.

This interval should elapse between doses, as too rapid ones may even defeat the object, by over-excitement of the system, while a single dose often arrests an abortion if permitted to expand its action.

After a ewe has actually aborted, it is almost impossible to tell whether it occurred from contagious abortion or from some other cause, so the safe thing to do is to act as if it had been contagious abortion.

TREATMENT OF CONTAGIOUS ABORTION.—The fetus and membranes should be burned. The premises occupied by the sick animal should be disinfected as follows: Remove all bedding and dirt possible and spray all available parts of barn with 3% formalin or 5% carbolic acid solution. Apply whitewash containing 1 lb. chloride of lime to 3 gallons of whitewash, scatter quicklime on floor and gutters.

The animal which has aborted should receive daily a vaginal irrigation of two gallons of warm water containing 2% lysol until the vaginal discharge stops. The external parts about the vagina, including the hips and tail, should be washed thorougly with soap and water and then with the lysol solution as above, twice daily. This should also be done to all exposed pregnant animals in the herd, being careful not to use the same cloth, solution, bucket or attendant, for the well animals that was used for the sick one. Give G.G., at intervals of six hours.

Inflammation of the Bearing

By this term is indicated a common affection of the ewe during the lambing season, which is generally produced by injuries inflicted upon the parts of generation in forcibly extracting the lamb from the mother.

Treatment.—The parts should be well washed with tepid water, and Veterinary Oil applied. A.A., should also be given internally, two or three times a day; in some cases, alternated with I.I.

Garget—Inflammation of the Udder

Garget is a disease which prevails amongst ewes during the lambing season. It arises generally from the action of cold and wet upon the udder. Lying with the udder in contact with the cold, wet ground will produce garget; also prevalence of wet and easterly winds.

The udder swells considerably, is excessively tender, and speedily becomes hard and hot; the pulse rises; the appetite fails, and more or less fever is present. The progress of the disorder is very rapid, and often fatal; prompt treatment is consequently required.

Treatment.—The animal must be removed to a warm, sheltered situation, free from wet and cold. The best remedy is the A.A. It is the more demanded if the pulse is much disturbed and the patient feverish, and a dose should be given three or four times a day. The lamb must be allowed to suck, or the udder must be otherwise emptied of its contents. As the fever abates, use the C.C., in alternation with the A.A.

DISEASES OF LOCOMOTION AND SKIN

Rheumatism

Sheep, particularly aged sheep and lambs, are subject to rheumatism, sometimes acute, sometimes chronic. They move stiffly, as if in pain, look thin and miserable. The symptoms and treatment are the same as those for the same disease in cattle (page 137). In old sheep, only partial relief can be given; they should therefore be fed under shelter, ready for slaughter; if left to graze, they may not feed at all. Lambs should be sheltered and kept warm. B.B., is the proper and very useful remedy, given daily.

Lameness

A sheep frequently manifests sudden lameness; when it does so, the foot should be washed and examined. If there be a stone, thorn, or other foreign substance in the cleft, it should be removed, and the wound dressed with HUMPHREYS' VETERINARY OIL. For other causes of lameness, see sections on foot-rot, rheumatism, etc.

Foot-Rot

This disease usually results from foreign bodies, such as sand, gravel, sticks, or dirt getting into the cleft of the foot, although it sometimes appears to be contagious.

SYMPTOMS.—Lameness, swelling of the pastern, pain, etc.; matter then forms, and unless it is let out, it will spread in all directions under the foot and appear at the coronet; long, narrow ulcers remain, and proud flesh springs up from the diseased places.

TREATMENT.—Examine the foot carefully; remove all dirt or other foreign matter; then foment the foot, night and morning with hot water for an hour, and then apply

a turnip or bran poultice; the hoof should be pared down, and all the dead parts, or those likely to interfere with the escape of matter, cut away; afterwards apply the VETERINARY OIL on a piece of cloth, bandaged to the foot, to keep it in place and prevent dirt or other matter getting into the sore. If the parts are healthy, the tar and tallow application (equal parts) is very servicable. The hoof will then begin to grow, during which care must be taken to prevent dirt lodging in the wound and causing fresh irritation. A dose of the I.I., every morning, and of J.K., every night, will aid the process.

Pock

This disease which attacks the same animal but once in life, and by preference the young ones of the flock, is one which sometimes occasions fearful ravages among sheep. It has its regular stages, like the small-pox, and may be mild or malignant.

SYMPTOMS.—In the mild form, the animal is for two or three days sad and dejected; then, on different parts, more particularly on the inner surface of the forefeet and around the mouth, small red spots appear, whose center is occupied by a pimple, terminating in a white point. This stage of eruption is attended with feverish shiverings, heat, especially of the ears and nose; redness of the eyes and inner mouth; the animal is melancholy; head down; feet close together; lameness, especially of hind parts; no appetite or cud. The greater the number of pustules; the worse the disease. The body is hot; breathing short; a clear mucous flows from the mouth; the parts occupied with pimples, especially the head, swell so that the animal cannot open its eyes or mouth; the fever continues; the pustules enlarge, and are filled with fluid, first thin, and then becoming thick, yellow and purulent. On the thirteenth day the pustules begin to dry up, fever abates, pus hardens in the pustules, becomes yellow, then darker, flatten, become scabs, and by degrees fall off, leaving a dry scar behind. The drying stage lasts from five to seven days.

Sometimes this disease assumes a malignant form, in which the pock are very numerous, running together; the symptoms violent, irregular, and the pock soon becomes dark-colored. The pustules run together, forming extensive ulcers beneath the wool, frequently destroying the eyes and entire pieces of the lips and face.

TREATMENT.—During the feverish stage, for the first five or six days, give the A.A., five drops, four times per day. Then give the I.I., the same dose morning and night, until the animal is well. This I.I., given to the well sheep, will so act as to either prevent their having it at all, or only in a very mild form. The sound and diseased, or suspected sheep, should be separated, as the disease is very contagious, and easily communicated.

If, however, the disease has appeared in a flock with some severity, inoculation is best, quickest and safest. This may be done on the forearm or other part, with matter from a fresh pock, merely dipping the lancet in it and inserting it just beneath the skin, not so as to cause the blood to flow, or it may wash it out. The advantage is, that all have it lightly, and get over it in three weeks, otherwise the flock may be six months having it; and not one per cent of inoculated animals will die. During the disease they should not be kept too warm or be over-fed.

Gadfly

The gadfly of the sheep *(œstrus ovus)*, allied to the gadfly of cattle *(œstrus bovinus)*, is the plague of the flocks in August and September, as the other is of the herds; but it chooses a different place for the deposition of its eggs. The locality selected is the *alœ*, or flaps of the nostrils of the healthiest and finest sheep of the flock, while they are sleeping in the pasture. There the eggs, warm and moist, are speedily hatched. Thence the larvæ, ascending the nasal cavity, travel to the frontal sinuses, where they remain, living on the mucous secreted there, until their metamorphosis. During their

course upward they irritate the delicate membrane with their hooklets; and when then return from their hiding place for expulsion from the nostrils in the following spring, the irritation is renewed. The irritation, and consequent inflammation, pain and sense of dizziness, drive the sheep to distraction. The animal stamps, throws up his head, sneezes violently, and repeats the expulsive effort until the larvæ come away with a large quantity of mucous. The number of larvæ is usually not large; but when it is considerable, the inflammation may turn to gangrene and cause death. After expulsion, the larvæ bury themselves in the ground, assume the pupa state, in two or three months come out as gadflies, and again torment the sheep.

The treatment of this affection by means of powders blown up the nostrils, is often as irritating and injurious as the presence of the larvæ. I.I., should be given internally. The inhalation of fumes of sulphur will cause sneezing; and if the larvæ be not already dead, they should be destroyed.

Fly

Sheep that are wounded by butting each other, or any other cause, that have sores, that are dirty about the tail and quarters, are attacked by a large blow-fly, which deposits its eggs in the wound or putresence. It is during the summer, in sultry weather and after rain that the fly is the most troublesome. After a while the eggs are hatched, and the maggots burrow in the flesh of the animal. Their presence is indicated by local swelling, pain and dejection, and ultimate debility of the animal. If the maggots are not promptly destroyed and the wound kept clean, suppuration, deep ulcerations and death ensue. Mercurial applications poison the sheep as well as the maggots. The best treatment is to remove the maggots and keep the wounds clean, and apply Humphreys' Veterinary Oil or a 2% Lysol solution.

CHAPTER VII.—Part III.

SCAB, TICKS AND DIPPING

Sheep are infested with two kinds of external parasites. 1—The sheep tick, which is a wingless fly, less than a quarter of an inch long, and, (2) the acarus which causes scab; of these there are several different species, but since the symptoms are much the same and the treatment exactly the same in all cases it is hardly worth while to differentiate between them.

Dipping

Dipping is now the accepted form of treatment for external parasites of any kind.

There are three objects sought for in dipping; (1) the removal of external parasites; (2) improving the condition of the skin; (3) increasing growth in the wool; of course the first is the most important.

Dips may be divided into two classes according to their origin viz, proprietary dips and non-proprietary dips.

A proprietary dip is one which is put up in packages and sold as a dip and usually requires little handling to be ready for use.

A non-proprietary dip is one which the farmer makes up himself from articles which he buys as crude drugs. This is usually cheaper, but requires more handling in preparing it for use.

To-day, most, if not all proprietary dips on the market have been approved by the Dep't of Agriculture, and are

about as effective as the non-proprietary dips. The principal question is whether to pay a little more and save the labor of preparing the dip, or pay less and do the work yourself.

All dips come under one of five classes, according to the basic elements used; (1) Tobacco and Sulphur; (2) Lime and Sulphur; (3) Coal tar; (4) Carbolic acid; and (5) Arsenic.

The tobacco and sulphur dip is very much used and is highly recommended by the Dep't of Agriculture. It is prepared as follows: For every 100 gallons of dip required, use 21 pounds of tobacco leaves and 16 pounds of flowers of sulphur. Soak the leaves in cold or luke-warm water for 24 hours in a covered vessel. Bring the water to a boil and then remove from the fire. Allow to draw for not less than one hour or preferably over night. Then strain and press out all the tobacco juice. Mix the flowers of sulphur in water so as to make a thin paste, and pour this into the tobacco solution, stirring to keep the sulphur from settling; add water if necessary to make 100 gallons. Heat to about 100 degrees F for use, but be careful not to heat above 110 as the nicotine would evaporate.

The tobacco and sulphur dip is one of the best known. It is cheap, effective and does not injure the wool. However it does not keep and must be freshly prepared for every dipping.

The lime and sulphur dip is also a very good one and is the dip usually recommended, or even sometimes required by the Dep't of Agriculture.

It is prepared as follows: For 100 gallons of dip take 8 pounds of unslaked lime and 24 pounds of flowers of sulphur. Place the lime in a kettle and add enough water to make a paste; sift in the sulphur, stirring so as to mix thoroughly. Then add 25 to 30 gallons of

boiling water, and boil for at least two hours, stirring both mixture and sediment frequently. Boiling should be continued until the sulphur has disappeared from the surface of the liquid; add water as necessary. Then pour liquid and sediment into a barrel with a bunghole about 4 inches from the bottom, and allow to settle for two or three hours, and run off into dipping vat, and add water to make 100 gallons

This is one of the cheapest and most effective dips, but does sometimes injure the wool if it is long.

The coal tar dips are of two classes, known as creosote dips and cresol dips. They are sometimes home made, but more often are proprietary. Of these dips, the creosote dips are probably the best, for although both are effective in destroying ticks and scabs, the creosote leaves the wool in a clean, soft and pliable condition, while the cresol dip is liable to leave it dry and harsh.

The carbolic and arsenical dips are losing favor with sheep raisers on account of their poisonous character and they are not highly recommended by the Dep't of Agriculture.

Sheep should always be dipped twice. The first dipping kills the mites, but usually does not get the eggs, so they should be dipped again, about ten days after the first dipping.

Sheep should remain in the dip for one minute, to destroy ticks, and two minutes for scab, and the head should be plunged beneath the dip just before leaving the tank, except where using carbolic or arsenical dips.

If sheep become infested with ticks or scab, they should be dipped irrespective of the season of the year. Otherwise it is usual to dip them shortly after shearing.

For large flocks of sheep, an elaborate dipping plant, with permanent vat, cooking and heating apparatus,

and herding and draining pens is necessary, but for a few sheep on a general farm, a large tub will do and the sheep can be lifted in and out of it onto a draining board which will carry the drippings back into the vat.

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PART IV.

Diseases of the Dog

CHAPTER I.

GENERAL DISEASES

Distemper

This is one of the most common diseases of the dog, and one that leaves in its train often very serious results. The earlier symptoms are very insidious. There is dullness; loss of appetite, flesh and strength may be remarked, while purging and vomiting are not uncommon. To this are added a short, husky cough, watery eyes, increased redness of the vessels of the eye, sensibility of the eye to light, increased frequency of the pulse. As the disease advances, the animal shivers with the cold, dislikes to be disturbed, seeks warmth, and courts solitude; the bowels are confined; the membrane of the eye covered with a fine net-work of bright red vessels; a thick discharge of matter flows from the eyes; the nostrils are covered with a glassy yellowish fluid; the cough is increased in frequency, and comes on in fits, which terminates in the discharge of a yellow, frothy fluid from the stomach; the skin is hot. Often with red spots on the under side of the body and between the thighs.

A later stage is marked by an increase of all the foregoing symptoms. The body wastes, the shivering is constant, the eyes are filled with a thick matter, which glues the eyelids together in the morning, tenacious matter clogs the nostrils and obstructs the breathing.

This causes much uneasiness and frequent but unsuccessful attempts to overcome the cause of annoyance. The discharge from the nostrils becomes bloody and offensive; the breath is fetid; the lips are covered with ulcers; short cries express pain; and the animal, becoming weaker and worse in every respect, at last dies, a severe diarrhea being the usual harbinger of that end.

Distemper frequently results in chorea, or St. Vitus' dance, paralysis, disease of the brain, ulcers on the eyes and opacity, inflammation of the lungs, or in numerous other ailments.

TREATMENT.—The earlier stages, before the discharge is established, are best controlled by the A.A., of which give a dose of three or five drops, according to the size of the dog, morning, noon and night.

After the catarrhal stage has come on, give three or five drops of the C.C., four times per day. This will, in general, carry the animal safely and speedily through this ordeal. Should other diseases declare themselves, they should be treated accordingly.

Should a general or partial paralysis occur, or inability to use one or several limbs, the J.K., should be given, three or five drops, three times per day, until recovered. (See paralysis.)

ACCESSORY MEASURES.—A nutritious and easily digested diet is of great importance in this disease, such as—milk, bouillon, soup, scraped raw meat and beef tea. If much diarrhea, boiled milk. If great loss of strength or appetite, alcoholic stimulants may be added to the milk or soup.

Simple or Inflammatory Fever

Is known by a fever, attended with increased heat of the whole body, and with a quick, strong, decided pulse. It attacks dogs of all breeds and ages, but most frequently those from one year to three years old.

CAUSES.—Sudden changes from heat to cold; jumping into cold water after being very much heated from

running; excitement from various causes. Fever is accompanied with some degree of inflammation, however it may be occasioned.

SYMPTOMS.—The fever comes on with a dislike to move, and with a drowsy appearance, soon followed by great restlessness; constant getting up, turning round, and lying down again; great thirst; hard, frequent pulse; hurried breathing; red, swollen, watery eyes; burning heat of the whole body; dry, parched nose; intensely hot mouth; as the disease progresses the restlessness increases, and the dog stares, and frequently becomes unconscious.

TREATMENT.—Give A.A., from one to three drops, according to the size of the dog, every two hours at first, and as the patient mends, a dose four times per day; and at the last, a dose of J.K., morning and night.

Rheumatism—Chest Founder—Kennel Lameness

DEFINITION.—An affection of the muscles and joints accompanied with stiffness and tenderness. More often of the chest, loins or back, but may occur anywhere.

CAUSES.—Sudden exposure to cold and damp; going into water after running fast; lying in a cold, wet kennel; violent exercise. It chiefly attacks sporting dogs and house dogs.

SYMPTOMS.—Stiffness in the fore legs and shoulders; stiffness of back, neck, and loins, animal cannot go up or down stairs easily, howls when fore paws are lifted from the ground; unusual firmness and tenderness of the muscles of the chest when pressed; swelling at the knees, with heat and tenderness; tenderness at the back of the shoulder or the ribs; accelerated breathing; impaired appetite; dry and hot nose. The animal often limps with one paw, trails it, or holds it up as he goes along, and howls when he puts it to the ground.

TREATMENT.—Give, at first, and more especially if there is heat or fever, A.A., a dose every three or four hours, and later, if the lameness and stiffness is considerable,

give B.B., in alternation with the A.A., at similar intervals. For simple rheumatic stiffness, give B.B., morning and night. Dose, one to three drops, according to the size of dog.

Accessory Measures.—The animal must be kept warm and dry, and protected from the inclemency of the weather. No meat of any kind should be given.

Dropsy

Dropsy is a morbid accumulation of watery fluid confined to certain parts of the body, or affecting the cellular tissue; the latter form, called anasarca, is very rarely seen in the dog. The most common forms are: water in the cavity of the chest, hydrothorax; and water in the abdomen, ascites.

Causes.—General Debility, brought on by want of food; diarrhea suddenly checked; damp lodgings. It may follow various diseases, such as inflammation of the lungs, or retroceding skin disorders; or be caused by a diseased state of the mesenteric glands, or of the liver.

Symptoms.—Ascites is accompanied by enlargement of the abdomen; the water is sometimes collected in the abdominal cavity; at other times it is between the skin and the peritoneum; in the former case there is not that tense feeling which characterizes the latter. The presence of water may be ascertained by resting one hand on one side of the abdomen and striking the other side, when *fluctuation* will be felt. Water in the chest is accompanied by oppressed breathing and cough; both symptoms are aggravated by lying down. In either form of the disease there is loss of appetite, disinclination to move, the urine is passed in small quantities, the dog loses flesh and becomes weak.

Treatment.—H.H., by increasing the action of the kidneys, is often efficient, a dose once in three hours. If not efficient, alternate I.I., with the H.H., at the same intervals.

Abscess

DEFINITION.—A collection of matter, generally appearing between the skin and the cellular tissue—occasionally close to the joint, and rarely (in the dog) upon some internal organ. It may appear on any part of the body.

CAUSES.—Injuries are the chief causes of abscesses in the dog, but they sometimes appear from weakness after certain diseases, especially distemper. When internal abscesses form, they are due to too great care, too high feeding, or want of sufficient exercise.

SYMPTOMS.—A swelling appears, which is hot, painful and inflamed; it increases in size, and finally bursts, when the matter is discharged. In other cases there is but little heat or tenderness, and the swelling increases slowly, and is occasionally hardened. If hardening takes place, instead of suppuration, there is usually a subcutaneous fungoid growth.

TREATMENT.—The I.I., is the remedy for such forms of disease, and may be given, a dose of from one to three drops, according to the size of the dog, three or four times per day.

ACCESSORY TREATMENT.—If an abscess appears to be forming, the part should be narrowly examined to ascertain if there has been any injury from a thorn, etc. If anything is found, it must be at once carefully removed, and HUMPHREYS' MARVEL WITCH HAZEL or VETERINARY OIL applied to the part. This, if attended to in time, will often prevent the formation of the abscess. But if the swelling continue, and it is certain that pus is forming, it will be hastened by fomenting the part with warm water, three or four times a day; if the swelling has increased in size and becomes softer, but does not break, it will be necessary to open it with a lancet or sharp penknife.

Tumors

DEFINITION.—A deposit or growth of diseased structure confined to the part where it first appears. The tumors

generally seen on the dog are of two kinds—(1) indurated, or hard; and (2) encysted, or enclosed in a sac or bag. They are seldom painful, unless considerable pressure be used; as a rule they are movable, and their extent can easily be determined. *Encysted tumors* are the most common; they vary in size, from that of a nut to that of a pint measure. They are sacs or small bladders filled with matter, smooth and soft, devoid of inflammation, and lie close under the skin. At times their formation is very slow; this is generally the case when they are due to constitutional causes, a fact which can generally be clearly ascertained.

LACTEAL TUMORS

Tumors sometimes form in the teat when there is obstruction in its canal; or when the milk is dried up too soon or too quickly after suckling. They appear in different parts of the gland, as small, movable, hard bodies; increase in size; cause great inconvenience to the animal; and form an eyesore to its owner. If their progress be not arrested, they may ulcerate; or encysted tumors may form, which, if injured by dragging along the ground, may have a similar issue.

CAUSES.—Bruises; wounds; constitutional tendency; diseased condition of the secreting glands.

TREATMENT.—Hard tumors are best excised as soon as they appear. The operation is simple, and the wound will generally soon close up if left to the care of the dog, and after a time will scarcely be seen.

Encysted tumors are also best removed by excision. They may also be removed by tapping for the extraction of the fluid, and the subsequent injection of iodine. Should they become compound, they must be excised. On the other hand, when it is known that they have been caused by an injury, they will sometimes disappear by the use of HUMPHREYS' MARVEL WITCH HAZEL, internally and externally.

Cancer

All tumors are not cancers, but in certain constitutions, inflammation, indurated and encysted tumors may degenerate into cancerous growths. The cancerous tumor is at first small, hard, knotted and irregular in form; it then grows larger, and is attached to the skin; this inflames and ulcerates; and thus the cancer appears on the surface. Its edges are irregular red or purple, and indurated; it is attended with considerable pain and a most disgusting discharge.

TREATMENT.—If in good health the tumor may be excised while the dog is under chloroform. But the cancer will return. If fully established, the animal should be put out of its misery. The best application is HUMPHREYS' VETERINARY OIL, and the best internal treatment is the I.I., a dose two or three times per day.

Black Tongue

During the last few years a disease has been quite prevalent in the south which has been called "Black Tongue" whether this is a distinct disease or merely the symptom of some other disease is as yet not known.

The principal symptoms are congestion of the tongue and mouth which causes the black color, this usually leads to ulceration of the mouth and the ulceration frequently extends so as to involve the entire digestive tract. There is great weakness and emaciation with death in a few days. Very few animals recover. Besides these symptoms many others have been reported but they vary so much in the different cases that they have caused great doubt as to "Black Tongue" being a distinct disease. The symptoms given might be Dumb Rabies, page 225; Canker of the Mouth, page 237; Hook Worm, page 243; or Sore Throat, page 232.

In cases of so called "Black Tongue" we would advise comparing the symptoms with those of the above diseases.

CHAPTER II.—PART IV.

DISEASES OF THE HEAD AND NERVOUS SYSTEM

Apoplexy

DEFINITION.—A sudden, partial or complete loss of consciousness and power of motion, occasioned by determination of blood to the head.

CAUSES.—Pressure on the brain, from a congested state of the blood-vessels. Fat pet dogs are more subject to an attack than dogs moderately fed and allowed plenty of exercise.

SYMPTOMS.—Staggering walk, drowsiness, twitching of the muscles of the face and limbs; these are premonitary symptoms of an attack; or the fit may be sudden, when the dog falls down without power of movement, with loud and irregular breathing, and appears to be dying, but generally, after three or four hours, he gradually recovers.

TREATMENT.—The A.A., is the proper remedy, and may be given for the premonitions of an attack, a dose morning and night. If he has had the fit, give a dose at once, and repeat it again after two or three hours, and then morning and night for a time, to prevent a relapse. Dose, one to three drops, according to the size of the dog.

ACCESSORY MEANS.—Wherever the fit occurs, if possible, let the dog remain, and apply cold water to the head with sponge. After recovery takes place, care must be taken as to diet, only milk or oatmeal and water should be given for a day or two.

Palsy, Paralysis

This is not an unfrequent affection in the dog, especially those that are well fed, as pet dogs. It arises from disease of the brain or spinal cord, and is sometimes also the result of disease of the bowels or stomach.

Symptoms.—It may occur in one side or part of the animal, and is most frequent in the hind legs, which appear as if the animal had no power over them; he staggers, falls, or lies on the ground, dragging his hind legs after him, unable to stand upon them.

Treatment.—Give the J.K., two to five drops, according to the size of the dog, three times per day.

In case it comes on suddenly in well fed dogs, from an over-feed or gorging the animal, give a spoonful of castor oil and an injection of warm soap and water, followed with the prescription above.

Epilepsy, or Fits

The dog is occasionally subject to true epilepsy, and not unfrequently to fits or convulsions arising from transient causes; such as teething in puppies, worms, want of exercise, and then too violent exercise. They are liable, also, to come on during distemper, or after it, or from disease of the brain. Small pet dogs are more subject to fits than others, as their nervous system is more excitable and their lives more artificial.

Symptoms.—The fit generally comes on suddenly, the animal staggers, falls down, remains lying for an instant, and then is violently convulsed; the legs become stiff, the face distorted, the eyes roll about, the tongue is thrust out, the jaws nearly closed or firmly clenched. The convulsion becomes gradually less, and after some twitches they cease, and the animal in a short time appears well again.

In true epilepsy the fits recur again at diminishing intervals, and excitements may easily reproduce them.

Treatment.—Give on an attack, from whatever cause, from two to five drops, according to the size of the animal, of the A.A., and repeat it once after the paroxysm is over. This will be sufficient for fits arising from any transient cause; but if the dog is subject to them, he must have J.K., alternately with A.A., a dose every day or two, and continued for some time.

Chorea, St. Vitus' Dance

This is a frequent result of severe distemper, especially in the case of young dogs, intestinal worms, disorders of the stomach or a weak and anemic condition seem to predispose to this disease.

Symptoms.—The disease manifests itself by twitches, or involuntary jerks of various parts, as the leg, shoulder, face, neck, or even eyelids. Sometimes it is confined to a single limb or two, or the whole body may be affected. The animal has no control over them, and they are manifested sometimes during sleep. He wastes, eats and sleeps badly, and may become palsied; at last he becomes incapable of any service, staggers, has convulsions, and is at last worn out.

Treatment.—Give the A.A., each morning, and J.K., each night, two to five drops, according to the size of the animal, and follow the treatment perseveringly.

Accessory Measures.—Fresh air and fattening food such as—rich milk, broth, oatmeal, meat once a day.

Rabies, Canine Madness

Much has been said upon the subject of *Rabies*, or *Canine Madness*, and from the general horror in which the disease is justly held, some consideration of it is proper, even if we do not possess the means of cure. It is an acute disease, communicable from one animal to another and from them to man. Occurring among men it is known as hydrophobia. Its origin is unknown, but it is supposed to have originated from the skunk. Formerly it was very common among the wolves and skunks of the western plains. The virus affects the nervous system of the animal. It is found in some of the secretions, chiefly in the salivary glands. The disease is communicated only by the saliva of affected animals, usually by biting. The disease may break out in from a few days to a few months after the animal has been

bitten; the average time is about twenty-five days. Two principal forms of this disease have been distinguished: rabies proper, and dumb rabies.

Symptoms of Rabies Proper.—First change noticed is in the dog's gait in walking, either more lively and irritable than usual, or more dull and sad; peculiar restlessness; does not remain in one place; often quits his home and roams to a distance; he recognizes and obeys his master at the commencement, and even through the entire disease; generally no appetite from the commencement; some will take soup, but never solid food; they often, however, devour strange things, as wood, leather, straw, or even filth; they drink in all stages of the disease, as long as they can swallow; there is always a peculiar change of voice, more shrill or more grave, always slightly hoarse and disagreeable; the bark is peculiar, not in distinct emissions, as in health, but an emission of voice ending in a howl; the desire to bite is not constant, but comes occasionally in fits, and varying degrees; during the fits he bites everything, cats, other dogs, human beings, even his own master, or inanimate objects, and frequently snaps at the air. At first he is but little changed in appearance; but soon the eyes become red; they open and shut alternately; later, they are dull, as if covered with dust; rapid emaciation; he becomes, finally, very weak, and drags his hind quarters, while at first he is strong, carries his tail as usual, and differs not in gait from a healthy dog.

Dumb Rabies is manifested by loss of appetite, drink, voice, as in the first instance, modified thus: The lower jaw droops, apparently paralyzed from the commencement; he cannot swallow any liquid; saliva constantly flows from his mouth; the tongue often hangs from between the teeth; he bites less than in the first form; still, as there are times, when irritated, that he may close his mouth, the danger from biting is the same.

There are some popular errors, which are corrected by the following statements, thus: Dogs may become mad

at any season of the year. Female and altered dogs may become mad by communication, though the disease originates, probably, with entire animals. Mad dogs drink in all stages of the disease, if the soreness of the throat, or paralysis of the jaws, or flow of saliva does not prevent them; they have even been known to swim in water. Mad dogs do not always carry the tail between the legs, but otherwise, during the commencement of the disease; it is however, common in many other diseases, and in all dogs when pursued or frightened. Mad dogs do not always run in a straight line, unless pursued; they change their direction like other dogs, and run to objects which attract them. Other dogs do not avoid them, but if a stranger, it will be attacked by well dogs. Sound animals have no repugnance to the saliva of a mad dog, but will even eat meat which is covered with it.

TREATMENT.—All the means hitherto discovered to arrest the disease have proved unreliable. BELLADONNA and the A.A., may do something, and had best be administered in all doubtful cases: but if an animal is indisputably rabid, it should be killed at once. The excision of the gland or ligament under the tongue is only mutilating the animal to no purpose.

If a dog is suspected, or has been bitten, or exposed to contagion, give him the A.A., three or four drops, according to his size, three times per day, and inject a dose of the same medicine into the wound at the same time. Only a small proportion of the animals or persons bitten by animals supposed to be rabid ever become mad.

DISEASES OF THE EYES, EARS, NOSE, ETC.

Inflammation of the Eye, Ophthalmia

It may arise from a variety of causes, such as congestion of the brain; exposure to heat and cold; over-exertion; blows or other injuries; over-salted food, infection, foreign bodies, etc.

SYMPTOMS.—The white of the eye is covered with red streaks; the clear portion in front (pupil) is dim; water runs down the face; the light cannot be endured and the eyelid is closed. An ulser may appear afterwards in the front of the eye, and it may go on until it penetrates through the outer coating of the eye (cornea), and the fluids of the eye thus escape. In some cases proud flesh springs up from these ulcers.

TREATMENT.—The A.A., should be given, a dose of two drops only, two or three times per day. This in general will be sufficient for all forms of ophthalmia; but if the case is of some standing, or if ulcers or degenerations have taken place, two drops of I.I., may be given every night, and the A.A., in the morning.

A wash of HUMPHREYS' MARVEL WITCH HAZEL, diluted one-half with soft water, will promptly relieve.

Amaurosis, Gutta Serena

This disease consists in entire or partial loss of vision in consequence of paralysis of the optic nerve, or interruption of its communication with the brain. Injuries of the head, or ball of the eye, or some disease of the brain, are the usual causes. The dog walks cautiously, head elevated, the eye has a peculiar glassy appearance, and the pupil does not dilate and contract when light is brought near or removed from the eye.

But little can be done for these cases. In the earlier stages a dose of the A.A., may possibly arrest its progress, but generally it is incurable in man or beast.

Cataract

Opacity of the crystalline lens, or of its capsule, or both, prevents the transmission of light, and thus causes blindness. One or both eyes may be affected; old dogs generally suffer in both. The causes are the same as those which lead to cataract in the horse; and to the section thereon reference should be made. But little can be done by way of medicine; A.A., will sometimes relieve.

Pterygium

This disease, which consists in a thickened state of the cellular tissue of the conjunctiva, extending from the inner angle of the eye towards the cornea, is not uncommon in dogs, both old and young. In pups it is often cured by the mother's licking the eye; in old dogs it proves intractable. It sometimes follows ophthalmia.

TREATMENT.—You may give daily a dose, one to three drops, of A.A., with decided benefit.

Eczema of the Eyelids

In this affection small pustules appear on the edges of the lids at the roots of the lashes; presently they break, emit matter, which drys into crusts, mats the hair, and glues the lids together. If not arrested, the ulceration extends and destroys the bulbs of the hair, and with them the eyelashes.

TREATMENT.—The eyelashes should be clipped off close to the eyelids; the parts carefully washed with a sponge and diluted HUMPHREYS' MARVEL WITCH HAZEL, morning and night, to prevent agglutination. When crusts have formed they can be best softened and removed by fomentations with warm water. Care should be taken not to drag away the purulent matter with force. Give I.I., morning and night.

Fistula Lachrymalis

The Lachrymal canals, which orginate from the internal angle of the eye, convey the tears into the lachrymal sac, an oval bag, which is a receptacle for tears. It is situated near the angle, and constitutes the upper extremity of the nasal duct. If this duct be obstructed, the tears flow over on the cheek and a small tumor forms in the sac. This is followed by inflammation, suppuration, and the formation of an abscess, which bursts externally and leaves a fistulous opening, through which tears flow from the sac on to the cheek.

TREATMENT.—Sponge the eye with warm water, and give A.A., morning and night, if the eye or lids are inflamed, or the I.I., if no manifest inflammation is present.

Canker in the Ear

This disease consists of an inflammation of the internal ear, followed by ulceration and the formation of matter. It is usually the consequence of some injury, but may also result from excess of food and want of exercise, or from frequent and sudden exposure, as in case of dogs taught to go in the water, among whom it is quite common; it may also come from parasites; fat dogs are more subject to it than others.

SYMPTOMS.—The dog manifests pain by shaking his head, scratching his ears, or whining. The internal ear looks red, afterwards may ulcerate; a discharge occurs, and a blackish fluid will be found at the bottom of the ear, sometimes in considerable quantity; there is high fever, which, with the continuance of the discharge, may wear out the dog.

TREATMENT.—Wash the ear frequently with warm water, to carefully remove the discharge; afterwards apply some diluted MARVEL WITCH HAZEL.

Give A.A., three or four drops, alternately with I.I. The same dose four times per day; it may be successful.

Deafness

CAUSES.—It is sometimes a sequel of distemper, fever, or inflammation of the brain; it is also due to general debility, an accumulation of hardened wax, old age and canker.

TREATMENT.—Examination must be made to ascertain if it is due to the impaction of hard wax; if so, a little warm water and soap may be injected twice a day; after a few days the wax will most likely be softened sufficiently to allow of its removal. If the disorder follows distemper, C.C., should be given; if fever or inflammation of the brain, A.A.; if canker, also the C.C., a dose morning and night.

Serous Cyst or Abscess of the Ears

This affection of the ear generally arises from some injury, which is followed by an accumulation of a pale, straw-colored fluid between the outside and inside skin of the ear. Sometimes it increases slowly, at others rapidly, so much so that in a few days there will be a quarter of a pint deposited. The best thing is to open the swelling at once with a lancet, at the lowest part of the inside of the ear, and press out all the fluid. If this can be done effectually, adhesion of the two skins takes place without anything else being necessary. But if the discharge has been caused by a severe blow, it may continue for a week or two. Occasionally, if the punctured place is not kept open, the fluid accumulates a second and third time; if such should be the case, it will be advisable to inject a little warm water, and lay the ear in a vessel containing warm water for five or ten minutes, once a day for several days. Give I.I., also morning and night.

External Canker

External Canker is mostly found on the ears of dogs with short coats; it comes generally on the outside of the ears, beginning at the tips, and gradually extends down to the roots.

CAUSES.—Constitutional tendency; unsuitable food; want of cleanliness; sudden disappearance of eczema.

TREATMENT.—I.I., is the proper remedy, giving once or twice per day.

The ears should be washed once a day with warm water and soap. After they are dry, the following lotion should be applied with a sponge; Glycerine one part, HUMPHREYS' MARVEL WITCH HAZEL two parts, to water three parts.

Ulceration of the Nose

Ulcerations of the nose are not common in dogs, but they should not be neglected, as they might injure or destroy the sense of smell. They sometimes occur in old dogs, and emit a purulent, or sanious, and most offensive discharge. This condition is attended with pain, noisy breathing, attempts to sneeze, etc.

TREATMENT.—C.C., is the proper remedy, and may be given two or three times per day.

The nostrils should be washed and syringed with tepid water, morning and night.

CHAPTER IV.—PART IV.

DISEASES OF THE RESPIRATORY ORGANS

Angina—Sore Throat

DEFINITION.—Inflammatory swelling of the larynx and trachea.

CAUSES.—Exposure to sudden cold when heated; damp lodgings.

SYMPTOMS.—The first are generally sneezing, hoarse cough, ears and nose alternately hot and cold, noisy breathing, caused by swelling of the glands under the throat and jaw; difficulty of swallowing. The front of the neck, especially about the larynx, is much swollen; when the swelling is considerable, internally and externally, the breathing sometimes becomes so much embarrassed that the animal dies of suffocation.

TREATMENT.—Give A.A., a dose every hour at first, and then every two hours, until relieved.

ACCESSORY MEANS.—The frequent application to the throat of cloths dipped in hot water; cold water, frequently renewed, for the dog to lap; cold milk and broth as diet.

Catarrh—Coryza—Cold

DEFINITION.—As a rule, coryza in the dog consists of inflammation of the mucous membrane of the nose. It is most frequent among dogs that are petted and kept in warm rooms. It may lead to bronchitis and other diseases of the respiratory organs.

CAUSE.—Change of temperature, especially in spring, during the prevalence of easterly winds.

SYMPTOMS.—Running from the nose and eyes; sneezing; diminished appetite; accelerated breathing; dullness; heaviness; sleepiness.

TREATMENT.—C.C., is the proper remedy, a dose, one to three drops, three or four times per day.

ACCESSORY TREATMENT.—It will facilitate the cure if the dog is kept in a warm place for a day or two, not allowed to go out at all, and fed upon milk or thin oatmeal gruel. He should also have plenty of water to drink. The nose and eyes should be sponged with tepid water several times a day.

Bronchitis—Acute and Chronic

DEFINITION.—Acute bronchitis is active inflammation of the membrane of the air-tubes of the lungs. Chronic bronchitis more particularly affects old dogs.

CAUSES.—Sudden changes of temperature; standing in the cold when heated; cold draughts of air in the kennels, or wherever the dog is kept, frequently cause bronchitis.

SYMPTOMS.—The first symptoms of acute bronchitis are generally those of common cold; shivering; short, hard cough; constant distressing cough, at first dry, afterwards accompanied by a sticky mucous; feverish symptoms; accelerated pulse and breathing; loss of appetite; dullness; an anxious look depicted on the countenance. Auscultation detects a wheezing sound, or rattling of mucous, in the trachea and bronchial tubes. The nose is hot and dry at the commencement of the attack, but becomes moist when the inflammatory stage is passed. Chronic bronchitis consists of a cough during the winter months, which comes on after changes in the temperature, and is attended with shortness of breath and wheezing.

TREATMENT.—Give, at first, and during the feverish stage, a dose, of A.A., one to three drops, according to the size of the dog. After the more urgent symptoms have been relieved, E.E., may be given, in alternation with the A.A.

ACCESSORY MEANS.—The dog should be kept in the house, and in one temperature, as nearly as possible.

A pail of boiling hot water may be placed in the kennel from which the steam will evaporate and keep the air moist; this will be found very beneficial. Milk, or bread and milk, constitute the best diet; farinaceous food, but no meat; fresh supplies of cold water. Meat broth may be given in cases of great debility and old age.

Asthma

This disease, which most nearly resembles broken wind in the horse, is characterized by difficult breathing, with intervals of free respiration.

Causes.—Close confinement, want of outdoor exercise, excessive feeding; it is observed almost wholly among fat and petted dogs, from four to seven years old.

Symptoms.—The disease is insidious in its invasion; it begins with a slight cough, which returns at irregular intervals, and is therefore likely to escape observation. It, however, becomes more frequent and troublesome; is harsh, dry and sonorous, and may give the mistaken impression that there is a bone in the throat. It is then provoked by every change of temperature, food or posture; becomes almost incessant; disturbs sleep; produces nausea and sickness; but nothing is expelled besides mucus from the respiratory passages, where its presence is a cause of irritation. Meanwhile the breathing is affected, and is not unfrequently very labored and painful. The digestion may be impaired; the appetite slight or morbid; the breath offensive; the teeth covered with tartar; the coat rough; the skin mangy. In some cases the dog is worn down by the irritation of the cough; in others the pulmonary congestion arrests respiration, and causes suffocation; or cardiac difficulties cause accumulation of blood in the head, and consequent convulsive fits. But the disorder generally ends in hydrothorax or ascites—generally the latter. In these cases the body wastes, the abdomen is enlarged, the legs swell, the coat is staring, the breathing very laborious,

till, ultimately, suffocation puts an end to the animal's existence.

TREATMENT.—If the disorder be treated judiciously in the early stage, it is curable; but if it has continued for any length of time, only palliation can be looked for. Give E.E., a dose, according to size of dog, two or three times per day. For a fit of asthma or bad breathing, give A.A., every hour. For old, bad cases, try I.I., three times per day.

ACCESSORY MEANS.—Exercise should be regularly taken in the open air, except when the weather is cold, or damp, or sultry. The food should be of the best and most nutritious quality, given frequently, but in small quantities at a time.

Inflammation of the Chest, Pneumonia or Pleurisy

Inflammation of the chest usually involves both the pleura or lining membrane of the chest, and the substance of the lungs, so that they may be advantageously treated. It is usually the result of cold and exposure after being heated; it may also be produced by wounds.

SYMPTOMS.—Shivering chill, followed by heat and thirst; the sides are painful when pressed upon; stitches are observed; the dog sits upon his haunches, with the fore legs separated from each other, and the head held forward; the breath hot; cough short and painful; breathing frequent, labored and heaving; pulse full and quick; tongue hangs out of the mouth; eyes thrust forward and red; finally drowsiness, and death. Sometimes the effusion of water in the chest is very abundant, when the legs swell, and breathing becomes difficult, labored and suffocating.

TREATMENT.—Give first, three or five drops, according to the size of the dog, of the A.A., and repeat the dose every two hours for the first twenty-four hours. Then alternate the E.E. with the A.A., at intervals of two or three hours.

Cough

In most cases cough is symptomatic of disease, and often indicates the commencement of some serious disorder of the respiratory organs, when it should not be allowed to continue unheeded. Well-fed dogs often have a dry, searching cough, which, if they are old, degenerates into asthma. Cough is sometimes consequent on obesity, when the amount of food should be lessened, exercise taken, and J.K., administered. If it be caused by the dog going into the water, or being washed with warm water in winter, or being confined for some time in a low, damp situation, I.I., or E.E., are the remedies. Such a cough is generally harsh and hard, and accompanied by vomiting of tough mucus. A dose two or three times per day is sufficient.

DISEASES OF THE DIGESTIVE SYSTEM

Salivation

Mercury, in its various forms, is somtimes given to dogs by ignorant persons, or by chemists and dog-fanciers, for some real or supposed disease; or it is applied to them externally as an ointment for mange, in either case resulting in salivation, with the following.—

SYMPTOMS.—Loss of appetite; sore, swollen gums, which are blueish, easily bleed, and generally ulcerate; loosened teeth, which may even fall out; constant dribbling of saliva from the mouth; offensive breath; swelled glands; extreme weakness; hair falls off; and frequently purging, attended with straining.

TREATMENT.—Give the A.A., a dose each morning and noon, and a teaspoonful of HUMPHREYS' MARVEL WITCH HAZEL at night, especially if there is ulceration of the mouth or throat. If not improved after three or four days, substitute I.I., three or five drops, morning and night.

Canker in the Mouth

This is a very troublesome affection, and often difficult to cure; indeed, if the disease be the result of a long-continued local irritation, or the dog be old, it is generally considered to be incurable.

SYMPTOMS.—The gums are swollen, and discharge purulent, bloody, offensive matter; "proud flesh" is formed; bleeding ensues; there is difficulty in eating; appetite and condition are lost; emaciation and exhaustion follow.

TREATMENT.—When the disease is of recent origin, or the dog is young and generally healthy, the mouth should be washed out once a day for several days, with

a solution of HUMPHREYS' MARVEL WITCH HAZEL, half water; and give J.K., say three times per day, two to three drops, according to the size of the dog. It is usually promptly efficacious.

Diseases of the Teeth

The teeth are more frequently affected in the dog than in other domestic animals. This may be the result of a variety of causes, among which are the following: Eating or gnawing bones, by means of which the teeth may be broken or ground down to the quick; healthy, well-fed dogs only pick their bones; rich, sweetened food, which has an injurious effect upon the teeth; mercury, frequently given to dogs, which produces salivation, loosening, and eventually falling out of the teeth. Teaching dogs to carry or chase hard substances, stones, etc., frequently results in diseased teeth, as they are thus rubbed down to the gum, and the stump produces much mischief.

SYMPTOMS.—If the dog has a bad breath, seems to be in pain when he eats, does not thrive or manifest his usual spirit, the mouth should be examined. One or more teeth will be found worn down to the gum; the fang produces irritation, and may result in an abscess; the sides of the mouth are raw and ulcerated, and saliva dribbles from it.

TREATMENT.—Extraction is the sole remedy for loose, irregular or decayed teeth.

Indigestion

DEFINITION.—Imperfect transformation of food into a state suitable for the nourishment of the body.

CAUSES.—Improper food, or food in too large quantities; want of exercise.

SYMPTOMS.—Restlessness; partial loss of appetite; frequently attempts to vomit, sometimes bringing up only froth; at other times a mixture of froth and green fluid; foulness of breath; irregular action of the bowels;

distention of the body; lying out at full length and rolling over; the appetite is vitiated or impaired.

TREATMENT.—Give the J.K., for indigestion, a dose, one to three drops, according to the size of dog, once in two, three or four hours. Often a dose night and morning is sufficient.

ACCESSORY MEANS.—Attention to diet and regular exercise go a long way towards curing and preventing this disease.

Vomiting

It is such an easy matter for dogs to vomit that the least thing which disagrees with the stomach occasions it. It is rarely of any consequence, as it does not interfere with the health; but there are some cases of continued vomiting, in which it is necessary to administer medicine.

TREATMENT.—When vomiting takes place daily for several days, and soon after eating, it will most likely be remedied by changing diet; if it continues after the diet has been changed, give a dose of J.K., morning and night. Should the dog be bloated or full of gas, a dose of F.F., will be curative.

Colic

Colic is not unfrequent in the dog. It is often connected with constipation, and may result from bad food, sudden change of food, exposure to cold, or from worms. It is common in puppies.

SYMPTOMS.—The dog has sudden pain in the bowels; it comes on in fits, is worse at one time than another. The dog is restless, frequently changing his position; he extends himself and then draws himself in with arched back, turns his head towards his sides, throws himself down, rolls about, moans or whines when the pain is severe, with a short, rough voice. There is rarely any fever in case of simple colic.

TREATMENT.—The F.F., should be given; a dose, from three to five drops, according to the size of the dog, and

repeated every half hour or hour, as the urgency of the case demands.

Should it not promptly relieve, the A.A., or J.K., may be given alternately with F.F.

Gastritis—Inflammation of the Stomach

Causes.—Drinking cold water when heated from running; damp kennels; continued feeding with rich food; indigestion; poisons.

Symptoms.—Great pain; the dog throws himself on the ground, kicks and rolls; there is constant desire for cold water, but as soon as any food or drink is swallowed, it is rejected; constant retching; dry and hot nose; cold extremities; quick breathing; anxious countenance; lying on the belly on the coldest ground the dog can find.

Treatment.—A.A., is the proper medicine. Give a dose as often as every hour if in great distress, and at longer intervals as the patient improves. From one to three drops, according to the size of dog.

Accessory Means.—Nothing but cold water should be allowed till all the symptoms have disappeared; even then great care must be exercised for several days, as to the kind of food given; cold milk or oatmeal gruel will then be suitable, in small quantities.

The treatment of gastritis produced by poisons consists in removing the poison from the system and neutralizing its effect.

Enteritis—Inflammation of the Bowels

Definition.—Inflammation of the bowels, either of their whole substance or only the inside or lining membrane.

Causes.—Drinking cold water when heated; exposure of petted dogs to cold; damp or sudden changes of weather; keeping the kennels of chained dogs on a damp, sunless situation; too long continuance of animal food; flatulent colic; obstruction of the bowels from hardened fæces, foreign bodies, etc.

Symptoms.—Violent pain, without cessation; great tenderness of the abdomen, which is very hot; the pain

is often so severe that the poor animal throws himself violently down, howls, springs up again, walks about for a few seconds, throws himself down again, rolls over and cries out; these actions are repeated until relief is obtained, or, in fatal cases, till a short time before death takes place. There is also aversion of food, constant thirst, constipation, the excrement coming away in small, hard pieces, during the first stage of the disease; the evacuations afterwards become loose and bloody.

TREATMENT.—A.A., is the proper remedy, a dose of from one to three drops, in a spoonful of water or milk, should be given, at first every half hour, then, as he improves, every hour, and as improvement progresses, at still longer intervals, until relief is obtained. Sometimes interposing a dose of F.F., is beneficial, if there are loose, bloody stools, or violent pain.

ACCESSORY MEANS.—Fomentations of hot water should be applied to the body, and continued till the symptoms have abated; cold water given to lap; milk and broth may be given when the severe symptoms have subsided.

Diarrhea

Excess of food, bad food, exposure to cold and wet, as well as a bilious condition, may induce diarrhea in the dog. If slight it will cure itself. It usually manifests itself by sickness, vomiting, thirst, discharges more frequent and thinner than usual. If it continues, the animal becomes thin, weak, does not eat his food, and his breath becomes offensive.

TREATMENT.—The F.F., will be found effectual. Give three or four drops, according to the size of the dog, three times per day.

Dysentery

SYMPTOMS.—Thirst, purging of fluid mixed with small pieces of dung, attended with severe straining and pain; often the discharges are of mucus mixed with blood. There is loss of strength and appetite, with rapid wasting.

TREATMENT.—Give the F.F., two to five drops, every one, two or three hours, according to the urgency of the case.

Constipation, or Bound Bowels

Constipation is more frequently observed than diarrhea in a dog. It may be the result of a want of proper exercise, improper food, or some disorder of the liver or other part of the digestive system. It is manifested by frequent unavailing efforts to evacuate, attended with groaning, trembling or other manifestations of pain.

TREATMENT.—Give J.K., three to five drops, according to size of animal, three times per day.

Should this course not relieve, an injection of warm soap and water should be given, and repeated, if necessary, until the result is accomplished.

Worms

The entire animal kingdom is subject to numerous parasites or entozoa. These have their abode either upon the surface, or along the intestinal tract, or within the cavities, or even in the more solid substances or muscles of the body. They are found in all animals and fish—those in apparent health as well as those that are sick—and part they play in the economy of nature is confessedly obscure. It is generally conceded that it is only in peculiar or morbid conditions, or under a course of diet and regimen unfavorable to health, that they multiply or increase to such an extent as to become of themselves a source of irritation and disease. It is under these conditions that INTESTINAL WORMS become the subject of medical treatment.

No animal is so subject or so frequently tormented by worms as the dog. This is doubtless owing to his highly artificial life and the great variety of food given him. Intestinal worms are of four varieties; the first is the Ascarides or round worm, white or light yellow in color and common in puppies. The second is the Oxyaris Vermicularis, known as the pin or thread worm and

inhabiting the lower bowel. The third is the Tenia or tape worm. The fourth is the Uncinaria Trigonocephalus or hook worm.

Symptoms.—All worm symptoms are questionable, except finding them in the discharges. Their existence may be inferred if the dog has a short coat, bound bowels or purging, turns of griping, wasting or fits.

Treatment.—For the first two classes of worms there are two systems of treatment. The first is to give a Vermifuge; this kills the worms and expels them from the system, however, it has done nothing to relieve the morbid conditions that allowed the worms to accumulate in the first place and they will return and have to be expelled etc. The other system is to remove the morbid conditions which allowed the worms to accumulate and the system will then expel the worms of its own accord. This is naturely a slower process than the first but its effects are much more lasting. D.D. belongs to the latter class of remedies.

Give D.D., two to five drops. according to size of dog, two or three times per day. Its continuance will not fail to eradicate them from the system.

The Tape Worm consists of a head not larger than a pin's head, in which there are four sucking cups and their armature; a neck, which is an inch or more in length, very slender and without joints; and the body, consisting of a long row of flat, ribbon like segments, each of which in rectangular in shape and increasing in size towards the caudal extremity. These segments have each the male and female organ, and at the caudal extremity the ripe eggs; there may be several hundred of these segments, each half or three-quarters of an inch in length, and the entire animal measure several yards. From time to time, the lower segments or joints as they are termed, ripen, and are pushed off, and appear in the evacuations.

The Hook Worm or Uncinaria Trigonocephalus is a small thread like worm, from one-quarter to three-

quarters of an inch long, white, with a black line down the body, the head has a bell shaped mouth provided with six hook like teeth; by means of these hooks the worm buries its head in the lining of the intestine from which it sucks blood. These worms are quite prevalent in the Southern States also in Southern Europe and Asia. They are found more frequently in packs of hunting dogs than in individual house dogs.

Symptoms.—The disease develops gradually with weakness and wasting followed by colic and alternating constipation and diarrhea. A discharge of bloody mucus from the nose and swelling of the limbs is characteristic of the disease. Death follows at a considerable interval.

Treatment.—Both the Tape Worm and the Hook Worm are very tenacious parasites and are not expelled by Homeopathic Remedies nor by the ordinary Vermifuge. Oil of Chenipodium has lately come into prominence as a Vermifuge for worms of all kinds; this is an American drug commonly called "Worm Seed" and was used by the Indians before the days of Columbus and later was very popular among the Southern "Mammies" for the elimination of round worms. It has lately returned to favor particularly for the treatment of Hook Worms.

The Oil can be obtained at any drug store, 16 drops is the dose for a dog of 40 pounds or over, this should be reduced in proportion to the weight of the dog. The dog should be starved for at least 12 hours, preferably 24 hours; he should then receive three doses with intervals of two hours between the doses. Two hours after the last dose give a tablespoonful of castor oil with a teaspoonful of chloroform (reduce in proportion to size of dog).

Be careful to give the medicine exactly according to the directions. A Vermifuge is a drug that is strong enough to kill or paralize the worms without killing or paralizing the animal; however too large a dose, or, too short an interval between the doses, or, too many doses

may kill or paralize the animal as well as the worms.

If during the treatment the dog appears unusually depressed, stop the medicine and give castor oil to move the bowels and strong hot coffee as a stimulent.

Thread-Worms (Filaria Immitis)

These thread worms inhabit principally the heart, lungs, and sometimes the throat and air-passages of the dog. They are sometimes found in bundles, slowly unrolling themselves when the part is cut open, or are found stretched out along the suface.

The characteristic symptom is a peculiar cough exhibited by any movement, especially after sleeping, ending in a violent effort to bring up something, emaciation, difficult breathing. When affected, the dogs run violently; they fall down, become stiff, insensible, and after a time get up and renew the chase.

Gastro-Duodinal Catarrh—Jaundice

This disease is occasionally found in dogs, more particularly in fat ones. It may be the result of excess of food and deficient exercise, or exposure to cold or moisture.

Symptoms.—The dog vomits, at first a yellow fluid which may afterward become greenish and have streaks of blood in it, eats little and is thirsty, the white of the eye, gums, lips and parts of the skin not covered with hair are yellow; hence the name Jaundice or yellows. He is sometimes hot, at others cold, the urine is dark and the dung clay colored, is dull, sleepy, shrinks from notice and becomes thin. These symptoms all increase until the dog becomes thin as a skeleton and at last dies, quite worn out.

Treatment.—Give the A.A., alternately with J.K., a dose of three to five drops, according to the size of the dog, every three or four hours, as the urgency of the case may demand. Old cases of liver complaint simply require a dose of J.K., morning and night.

Foreign Bodies in the Esophagus—Choking

A dog sometimes swallows a bone or piece of gristle, which sticks in his throat. He begins to cough, is restless, cannot swallow, puts his paw to the side of his head as if to pull something away; the eyes are red and prominent; mucus escapes from the mouth and nose.

TREATMENT.—The mouth should be opened as wide as possible, and warm water poured in till the dog vomits, when the intruder may come away; or it may be removed with a forceps. But if removal in this direction be impracticable, an attempt may be made to push the foreign body into the stomach with a piece of whalebone, cane or willow, protected at the end with a piece of sponge dipped in oil. If this fails, it will be necessary to open the esophagus. If this tube has been injured, two or three drops of arnica should be given in water, twice a day. For several days, milk or soup diet only should be given.

CHAPTER VI.—Part IV.

DISEASES OF THE URINARY AND GENERATIVE SYSTEMS

Nephritis

Definition.—Inflammation of the kidneys sometimes ending in an alteration of the secretions. It is not a very common disease, but when it occurs it is very dangerous.

Causes.—Exposure to cold and wet; seasoned food; over-exertion; strains; injuries; the presence of calculus; the administration of cantharides and turpentine in excessive doses, or as a result of infectious diseases.

Symptoms.—Tenderness of the loins; stiffness of the hind legs, which are carried wide apart when moving; hot and dry mouth and nose; great thirst; frequent turning of the head toward the flanks; the urine is passed in small quantities, with straining, highly-colored, like blood, or thick and glairy; bound bowels; feces hard and dry; sometimes vomiting; the appetite is lost; there is disinclination to move, and when the dog is obliged to stir the back is arched.

Treatment.—Give H.H., from one to three drops, according to the size of the dog, once in three hours at first, and then at longer intervals as the animal improves. A.A. may be sometimes called for as an intercurrent remedy, or to give between doses of the H.H.

Accessory Means.—Cloths wrung out of hot water and laid across the loins will be beneficial; nothing but milk must be given for several days.

Inflammation of the Bladder, Cystitis

This disease, which is a very dangerous and painful one, may be caused by stones in the bladder, injuries, fall upon the bladder when it is full of water, or similar accidents As a result of infectious diseases, or diseases

of the kidneys, also too long retention of urine in the bladder (dogs kept in the house too long).

SYMPTOMS.—Hot, dry skin; pain in the back and flanks; thirst; no appetite; restlessness and signs of pain; frequent attempts to pass water, in which either one or only a few drops are passed at a time; the water may be clear, or thick and mixed with blood.

TREATMENT.—Give first two or three doses of the A.A., at intervals of two hours, then give the H.H., a dose of three or five drops, according to the size of the dog, at intervals of two to three hours, until entirely relieved.

ACCESSORY MEANS.—Liquid diet should be given such as milk or broth.

Gonorrhea, Gleet

This disease, which is essentially an inflammation of the urethra, generally arises from taking the disease by connection with other animals that have it, or from repeated acts of sexual connection, which induces irritation, followed by a gleety, discharge; or it may arise in a modified form from uncleanliness.

SYMPTOMS.—Discharge from the internal surface of the sheath and urethra, or canal through which the water flows, consisting of matter having a yellowish or greenish color, glueing together the parts or hair about them; the surface looks red and angry, and is attended with swelling and pain; there is frequent desire to pass water; sometimes the swelling and pain are but slight.

TREATMENT.—Give the H.H., a dose of three or five drops, according to the size of the dog, four times per day.

In old cases, a dose of the J.K., given nightly, will be of decided benefit.

Inversion of the Womb

This sometimes occurs after parturition, either from disease of the womb, or from straining to void the placenta. The treatment consists in carefully washing the womb with tepid water, and then with the fingers

(oiled) returning it to its proper position. The womb in these cases is turned inside out, so that what is the inside when in its proper position becomes the outside when it protrudes from the vagina. Therefore, to replace it, the pressure must be from the part furthest from the vagina, and made with careful, gentle pressure. The replacement is easily affected, especially if an assistant holds the bitch up by the hind legs. After the organ is replaced, a little HUMPHREYS' VETERINARY OIL may be applied or poured into the vagina, and a dose or two of A.A. given. Afterwards, if there are symptoms of straining, the bitch must be made to stand or walk about, and G.G., must be given.

Inflammation of the Teats

This generally comes on a few days after the bitch has pupped. At first there will be found small lumps at the base of the teats, which are very tender; the swelling soon increases, and extends all around the teats; they then become very hot, and of a deep-red color. The sucking of the pups causes so much pain that the bitch refuses to allow it. When this is the case, the inflammation soon extends over the whole udder, and if it be not arrested, suppuration takes place, and an abscess forms at the base of one or more of the teats.

TREATMENT.—Give A.A., a dose of one to three drops, once in say three hours at first, then once in six hours, and bathe the teats in HUMPHREYS' MARVEL WITCH HAZEL or if cracked or very sore, apply HUMPHREYS' VETERINARY OIL, morning and night.

CHAPTER VII.—Part IV.

DISEASES OF THE SKIN AND EXTREMITIES, AND MECHANICAL INJURIES

Eczema—Surfeit—Blotch

Definition.—A non-contagious, vesicular disease of the skin, not occasioned by the presence of parasites, but dependent on constitutional predisposition. It is sometimes termed mange, but is distinguished from that disease by the absence of *acari*. Foul mange is an aggravated form of eczema.

Causes.—Hereditary constitution; insufficient exercise; gross diet; food too spare or too full in quantity, or unwholesome in quality; close kennel; dirty bedding, too hard or too luxurious a bed, etc. Flesh food will produce it; so, also, will sleeping on barley straw.

Symptoms.—The disease begins with irritation of the skin, which causes the dog to be continually scratching; from inflamed patches a serous fluid exudes, which mats the hair and forms scabs; these fall off together, leaving the skin bare, inflamed, red, and discharging a thin, watery fluid. This fluid dries in thin scales, which cause considerable irritation. The scabs and scales are scratched and rubbed by the dog, and are thus aggravated till pustular and vesicular eruptions give the appearance of general ulceration. The patch usually occurs on the back, at the root of the tail, outer surface of thighs or rump.

In other cases, in fat, over-fed animals, the skin is devoid of hair, is greatly thickened (especially along the back or before the tail), and is almost devoid of sensation. The dog is very foul, and smells very offensively; the skin is wrinkled, chapped, cracked, ulcerated, emitting disgusting serum or pus; thick, yellowish crusts are formed; and the dog lies dull all day long, sleeping, licking, scratching, biting its sore places, a disgusting object to look at.

The disease may be confined to certain parts, when it receives the name of the part attacked In sporting dogs there is frequently an eczematous eruption between the toes and at the roots of the nails, which causes redness, swelling and tenderness of the feet, together with lameness.

Puppies almost invariably inherit the disease when it has occurred on one of the parents.

As it is a constitutional disease, its duration is uncertain, its cure difficult, and its return probable.

Treatment.—In old cases, give the I.I., each morning, and the J.K., at night, and anoint, once per day, the sore, rough or scabby places, with Zinc Ointment. In urgent recent cases, the remedies above referred to may be given, four doses in a day. But in general the treatment first named will suffice.

Accessory Means.—Strict attention must be given to diet; flesh must be utterly prohibited, except in the case of weak puppies, or when the disease has occasioned great debility, and then broth will be better than solid flesh. To gross dogs a few days' abstinence will do no harm; they may thus become willing to take boiled rice, which should be offered fresh every day; but if declined, withdrawn at once. If the dog refuse to eat more than three days, an ounce or two of meat (according to his size) may be given to keep him alive, without satisfying his hunger. Vegetable or farinaceous food should still be offered sparingly, and when taken, the morsels of flesh should be discontinued. Do no more washing than is necessary. Dirt scabs, etc., should be removed with olive oil. The dog's bed should be repeatedly changed, and his kennel well ventilated; he should have free, moderate exercise in the open air, and be fully supplied with fresh water.

Boils—Furuncles

Boils, which may appear on any part of the body, are small, round, red, hard, painful tumors, with raised

centers, from which they supperate. When ripe, the boil should be opened and the pus pressed out. Warm fomentations will hasten the ripening.

TREATMENT.—Give A.A., a dose three times per day, one to three drops, according to the size of the dog. If the boil is red and painful, apply HUMPHREYS' VETERINARY OIL, two or three times per day. The boils should be opened when they have come to a head.

Louse—Tick—Flea

The dog louse (*trichodectes latus*), the dog tick (*ixod ricinus*), and the dog flea (*pulex canis*) are sources of no little torment. They cause considerable irritation, which induces the dog to scratch and rub himself; small pimples are formed, their heads are rubbed off, serum exudes, perhaps matter, and thus sores are produced. Lice are found in every part of the body, but particularly on the head and about the eyes and lips. They do not live on man. Ticks do not infest house dogs.

TREATMENT.—Fleas are best removed by means of Persian Insect Powder (Flores Pyrethri), this may be dusted on the dog or better dissolved in alcohol or water and sprinkled or rubbed on, another convenient way is to dust on the powder after a bath and before the hair has entirely dried. As this powder renders the fleas insensible rather than killing them, means should be taken to prevent the fleas getting back on the dog after they have recovered.

For house dogs a convenient way is to stand the dog on newspapers while dusting on the powder and hold him there for a few minutes until the fleas have dropped off; then carefully gather up the papers and burn them.

For larger dogs in the country the powder may be dusted on out-doors and away from stables, kennels, etc., and the dog kept out until the fleas have left him.

The sleeping quarters of the dog must also be carefully attended to, the box or basket should be washed with creoline or lysol solution or may be washed with water

and dusted with the powder while still damp; the bedding should be washed in boiling water if possible or if a pillow is used it may be placed in an oven sufficiently hot to kill the fleas but not hot enough to scorch pillow.

If the dog is very young or feeble brush the powder off after it has been on for 15 minutes.

Lice and ticks are readily killed by Kerosene (Coal Oil). For small house dogs, Spirit of Anise or Oil of Anise, with 10% of Olive Oil, is probably a better remedy. Any of these should be applied night and morning, for two days and then washed off. Then the dog should be carefully combed to remove the eggs which adhere to the hair paying particular attention to the face, around the eyes etc.

Do not attempt to pick lice or ticks off dogs, as very often the head remains in the skin, causing a small sore. Wait until the application has killed him and he will drop off. The bedding should be treated as for fleas.

Mange

Mange differs from eczema in being contagious and caused by parasites. The eruption in each case looks the same to the layman; however mange usually comes on those parts of the body where the hair is short and the skin tender, such as, the head, chest and abdomen, the inside of the thigh. White eczema usually does the opposite and attacks the back and outer parts, where the hair is long and the skin thick.

Treatment.—The acari must be killed by an external application of some sort, Creoline or Lysol are excellent, these may be bought at any drug store, and diluted according to the directions on the bottle. For small house dogs, Peruvian Balsam is undoubtedly the best application, but it is expensive; any of these should be applied twice a day for several days, means should be taken to keep the dog from licking off the ointment.

In addition, give the I.I., three to five drops, night and morning, to relieve the itching and promote a healthy growth of hair and skin.

Sore Feet

These may be occasioned by injuries, long traveling over rough and frozen ground, or in very dry weather.

SYMPTOMS.—The foot is swelled, and small, hard, painful lumps are felt in it; there is much pain, and the animal cannot bear its weight upon them. The skin becomes red, and the nails fall off. There is usually considerable fever and no desire to eat.

TREATMENT.—Bathe the feet three or four times per day in HUMPHREYS' MARVEL WITCH HAZEL, or apply HUMPHREYS' VETERINARY OIL, and give, morning and night, a dose of three or five drops of A.A.

If matter forms, a poultice may be applied, and the abscess afterwards opened.

Fractures

Simple fractures of the leg are very readily cured in young and vigorous dogs. It may be readily known by the distortion of the limb, by the ends of the bone grating upon each other, lameness, etc.

TREATMENT is very simple. Extend the limb and put the bones in place, and apply splints with a firm bandage, wetting the limb with HUMPHREYS' MARVEL WITCH HAZEL. Examine them from time to time to see that they are kept in place. After three or four weeks they may be removed, and the animal trusted to use its limbs. Give B.B., night and morning, for a few days, three or five drops, according to the size of the animal.

Hemorrhage

Occasionally dogs discharge blood from the nose, mouth or anus, after a long run, after going uphill, or after blows or other external injuries. Consideration should be given to the specific cause. Arnica, internally and externally, will often be found curative, or a dose of A.A. For an alarming hemorrhage, give a spoonful of HUMPHREYS' MARVEL WITCH HAZEL, and repeat it every hour if necessary.

PART V.

Diseases of Swine and Hogs

CHAPTER I.

Hogs have at times been known to have practically all of the diseases common to other domestic animals. However, in spite of unsanitary surroundings and manner of life, these diseases are very rare, and (in the United States) when a hog gets sick it probably has hog cholera.

Hog Cholera

There are two forms of hog cholera, the acute, and the chronic: however, since the only difference of importance is the length of time the disease takes to kill the hog, it is not worth while to try to decide which form it is.

SYMPTOMS.—The hog has fever; appears dull and sleepy; lies down and does not want to rise or move about; the eyes are red and bloodshot, with a discharge which often glues the eyelids together; and a watery diarrhea.

TREATMENT.—There is no known cure for hog cholera; prevention is the only thing.

In this respect the serum gotten up by the U. S. Department of Agriculture has done more than anything else to eradicate the disease.

There are two methods of inoculating the hog, the single and the double.

In the double method the anti-toxin is injected into the hog and also a quantity of the disease germs, this produces a lasting immunity.

In the single method the anti-toxin alone is used, this only produces a transient immunity unless the hog

is soon after exposed to the disease, in which case the immunity becomes lasting.

The single method should be used where cholera has already broken out in a herd, to protect the animals which have not yet acquired the disease; in all other cases the double method should be used.

A farmer should not attempt to give the serum unless he has had considerable experience with it and seen competent people properly administer it; otherwise call in a Veterinarian, his charges will be less than the value of the hogs that would otherwise be lost.

PART VI.

Diseases of Poultry

CHAPTER I.

Doses and Methods of Preparing the Remedies for Use.

ONE DROP OR PART of a DROP is quite sufficient as a dose for an ordinary fowl. One drop of any remedy put into a teaspoonful of water or milk, and this put into a teacup so as to *be thoroughly mixed,* is a sufficient dose for FIVE FOWLS of full size, or ten chickens.

WHERE A FLOCK or several fowls are to be treated, drop ten drops of the proper remedy into a cup, to which add ten teaspoonfuls of water, milk or curdled milk, and after *stirring it thoroughly* with a perfectly clean spoon, mix this with the meal, grain or bread, or whatever food is given them. If the quantity of fluid should not be sufficient to properly moisten the food, more can be added without detriment, provided the mass be *thoroughly stirred and mixed* before wetting the food. This would be enough for fifty fowls. Some will get more and some less, of course; but each will probably get enough to answer a curative purpose, and none will get so much as to be injurious.

If a bird is so ill as not to eat or drink. and the Remedy must be given by hand, the mouth may be gently opened and two or three drops of the mixture, made in the proportion of one drop of the Remedy to a *teaspoonful* of water, may be turned down, or the fluid may be turned on soft food and thus given, at the intervals mentioned under each separate disease.

Bread soaked in milk or water, cooked cracked wheat or curdled milk is, in general, the best food for sick or ailing fowls.

Aspergillosis—Brooder Pneumonia

This disease affects both the adult birds and the young chickens often causing serious loss among the latter.

The disease is caused by a fungus or mold which grows on straw, grain, etc., and is either inhaled in breathing or swallowed by the chicken; it sticks to the air passages and grows there as it did on the straw or grain, in small, yellow patches.

Symptoms.—In the adult fowl, the first symptoms are apt to pass unnoticed, these are loss of appetite and increased thirst, then the fowl loose weight; the breathing becomes labored and is accompanied by a rattle in the throat from the mucus which collects. This keeps on getting worse until the bird dies.

In young chickens the first symptoms are a sleepy and lifeless appearance and drooping wings. This is followed by rapid breathing and rattle in the throat and white diarrhea, which may be mistaken for the disease of that name (see page 269).

This disease may be mistaken for Anemia or Tuberculosis in the adult, or White Diarrhea in the chicken, and the only sure way is to kill a bird and examine the air passages and lungs; which will be found covered with patches of white or greenish-yellow membrane.

Treatment.—There is no cure for this disease and we must rely on prevention. Kill all affected birds and thoroughly disinfect the quarters, and be very careful not to give moldy grain or use moldy straw.

Blackhead

This disease is particularly destructive to young turkeys when from 2 weeks to 4 months old. Other domestic fowls probably carry the disease without being themselves affected.

The disease is caused by a very small animal known as an amoeba and much too small to be seen by the naked eye. These amoeba are swallowed in eating or drinking and make their way to the spot where the large and

small intestine join. At that point there are two blind pouches, and the amoeba stick there and increase and mutiply, until the intestine is almost completely obstructed; they also pass to the liver which becomes covered with yellowish or yellowish-green spots. From the position in the intestine the amoeba pass out with the excrement to infect more turkeys.

Symptoms —The young turkeys appear dull and listless, and do not follow the flock, and seem to have lost interest; the wings droop and the bird gets weaker and weaker; diarrhea is present and often a peculiar discoloration of the head which gives the name "blackhead".

Treatment.—So far no successful cure has been found for this disease, and we must rely on prevention. Diseased birds should be killed at once, their bodies burned and the runways, houses, etc., thoroughly disinfected. Turkeys should not be confined with other domestic fowls, for while these do not suffer from "blackhead" they are believed to carry it.

Bronchitis

Is known by the frequent coughing, and if observed, a more frequent respiration than in health, and generally a well-marked rattling in the throat may be noticed. In the more advanced stage there is discharge, as in catarrh, or a slight discharge as it gets well. Give the A.A., two or three times per day.

Bumble Foot

Occurs mostly in the large breeds of fowls, and is supposed to be caused by bruising the foot when alighting on a hard surface, or in resting on a small or uneven perch. There is a swelling or corn in the bottom of the foot, which softens, becomes ulcerated, forming a putrid surface or sore. Remove the putrid or decayed matter carefully, and paint with iodine; this may be repeated two or three times, and give, internally, the J.K., or if the foot is hot and swelled and not yet maturated, the

A.A., may dissipate the swelling without its maturating. The bird should be kept on the straw and not suffered to rest on the perch.

Cholera

Usually makes its appearance as a diarrhea, with frequent greenish droppings and violent thirst, and extreme weakness and rapid failing of strength; the birds staggering or falling about, and often attacks of cramps. There is generally also an anxious look in the face. The disease is sometimes rapidly fatal, death occurring in one or two days.

It is generally admitted to be caused by confining too many birds in close, limited quarters; insufficient shade; stale, unhealthy drinking water; exposure to the hot sun; feeding on grass-runs covered with droppings, and the want also of a regular supply of fresh green food. The disease rarely or never occurs where fowls have a liberal range, clean runs, good water and green food daily.

TREATMENT.—The flock should at once be removed from their unhealthy surroundings, and be given a clear, ample range, and the F.F., every three hours in urgent cases, or three times per day to those who are yet able to eat. The yards should be scraped free of droppings and covered with clean earth. Disinfect pens with 5% carbolic acid or fumigate with sulphur and whitewash with 5% carbolic in the whitewash.

Tuberculosis

Is sometimes observed in fowls, manifested by wasting of flesh and great weakness, notwithstanding good feed. The disease is incurable and affected birds should be killed at once.

In large flocks in close quarters where a few of the birds have it, it will usually be found that all have it, and it may be cheaper in the long run to destroy the entire flock, thoroughly disinfect the entire premises and stock up over again.

Cramps

Chickens are sometimes subject to this disease, especially in damp, cold weather. The toes are first seen to be bent under, and by degrees they walk on the knuckles or outside of the foot, and the birds often squat on the hock. If it is the result of a cold, and the chickens are feverish, as is generally the case, remove them to a comfortable place, and give them the A.A., three times per day. If it fails after a day or two, try the J.K. If the toes are badly cramped, they may be washed in warm water and gently opened and kneaded by the fingers, and afterwards be wiped dry.

Crop Bound

This is caused by the bird gorging itself with grain, tough meat or bone, too large to be digested. When the crop is so distended with hard food or other substance, the outlet is narrowed or entirely closed, so that mechanical manipulation may be necessary to cause its passage.

Where the crop is distended with hard food, and is not passing off, and help is required, pour some milk-warm water down the throat, and then, holding the head downward, quietly manipulate or knead the distended crop with the hand, so as to soften the mass. After the mass has thus been carefully softened, pour down a large teaspoonful of castor or sweet oil, and the mass will be gradually worked off. Food should not be allowed for some time. Give also the J.K., two or three times a day, which may be continued to entire recovery. In many cases the use of the J.K., will be successful without the use of any other means.

Diarrhea and Dysentery (Scouring)

Is not uncommon among fowls, caused usually by improper food or sudden changes of weather, or severe exposure. In diarrhea the droppings are only too frequent, watery, scalding or excessive, with consequent drooping and wasting of flesh; while, if this condition is

unchecked, the discharges become bloody or mingled with blood and mucous, forming a real *dysentery*. This latter form of the disease is said to be contagious, and requires that the diseased birds should be separated from the flock and the dead ones buried deeply, far away from the yards or pens of the flock, and the yards and pens thoroughly disinfected or use new ones. The treatment is the same; the F.F., should be given, three or four times per day. The food should be boiled milk thickened with flour, and well cooked, or good bread softened in scalded milk. Of course the birds should have a clean, dry and well littered and sheltered place.

Egg Bound

Sometimes hens are unable to drop the egg from its unusual size. This is usually manifested by the hens coming off the nest and moping around with the wings down and in evident distress. A large spoonful of castor or olive oil often relieves, to which should be added a dose of G.G. Should this fail after an hour, bathe the vent with warm water, and then with a feather dipped in oil, lubricate or freely oil the passage or viaduct, taking care not to break the egg. Should the egg passage be ruptured or protruded, the I.I., may be given, one or two doses, to promote the healing.

Scaly Legs

This disease is caused by a little mite which gets on the chickens legs and burrowing under the skin and scales causes the legs to become enlarged and the scales very prominent.

Treatment.—The best application so far tried seems to be an ointment composed of 1 part oil of caraway and 5 parts white vaseline, this should be rubbed on the legs every few days until the disease disappears. The mites can also be killed by putting a teaspoonful of kerosene oil in a quart measure of water and dipping in the foot.

However there is more danger of irritation than with the oil of caraway, and very much so if any of the oil gets on the feathers.

Feather Eating

This unnatural appetite, mostly observed in the hen, is the expression of some chemical want in the system, which, not satisfied in the food or drink of the fowl, manifests itself in picking and eating the feathers. Whatever supplies this want will relieve the expression of it, or, in other words, the habit. To this end the birds should have good feed and a grass run, if possible. If not, fine grass should be chopped up and given them, as also green food. *Bones* should be burned in the fire, then pounded small and put within their reach. This will supply the carbonate of lime, should that be wanting, and an occasional feed of wet-up bran will supply the silex, should the desire arise from deprivation of that. Some animal food, well peppered, may also be used advantageously. Give also the J.K., morning and night.

Fractures

Broken wings or legs in fowls may be set without much trouble, if the fractured ends of bones are brought together and secured. The leg or thigh may be held straight, with the broken ends neatly in position, and a rag, or even paper wet in white of egg, carefully wrapped around it several times. The white of egg hardens as it dries, and furnishes a sufficient protection until the callus is formed. Broken wings are best secured by tying the feathers firmly together about an inch from the end, after having put the fractured ends neatly in place.

Frost Bites

If the comb or wattles are frost bitten, they should be at first rubbed with snow or icy cold water, until the natural color and suppleness is restored, and then an application of HUMPHREYS' VETERINARY OIL. Two or three applications will usually suffice.

Gapes, or Throat Worms

This disease is so called from the peculiar action of the chickens who are affected with it. It is caused by the presence of a pale reddish worm, some three-quarters of an inch in length, which infest the mouth and throat, and of which from two to a dozen are found in a chicken, each usually doubled up. These worms are a species of pin worms, and have been bred in damp earth, and hence are found among chickens which are *bred in damp, moist soils*, and are rarely ever known when the birds have a *clean, high or gravel yard.* The spawn of these worms are deposited by myriads in the moist, unclean soil, are thrown out by the coughing and efforts of the ones infected, and becomes developed in the most barren soil or in water, and thence transplanted to the crop with the feed, become developed in the throat of the chick. This is the most recent position of scientific knowledge on this subject.

The best method of treatment is to remove, where possible, the chickens to a dry locality, and to give them the D.D., morning and night. FEED THE FOWLS and chicks with *finely chopped* ONIONS OR GARLIC (*tops and bottoms,*) *mixed with their food.* Experience shows the good results of this thoroughly scientific—as well as practical treatment. To remove the worms from the throat, make a loop of one or two horse hairs, which thrust down the throat, and with a slight twist draw it out, bringing the worms with it. This may be repeated until the throat is cleared. Or a quill feather, stripped to within an inch or two of its end, may be dipped in a mixture of glycerine or oil, and petroleum, made in the proportion of three parts of oil or glycerine, to one part of petroleum. Dip the feather in the mixture, and in like manner pass it into and well down the throat, and with a twist bring it out with the worms adhering. The used feathers and remaining oil *should be burned* to destroy the larvæ of the worms, and fresh feathers used freely, so as not to spread the worms or their larvæ.

Gout or Rheumatism

May be distinguished by the birds being lame, walking with difficulty and sitting about, and on examination the legs or thighs will be found hot and feverish; or in cases of longer standing, there will be evident stiffness of the joints and weakness of the legs, and in some cases contraction of the toes, which indicate cramps. The bird should be kept in a comfortable, dry place, and the B.B., given it three times a day. It is produced by exposure to cold and wet, or to sudden change of temperature.

Leg Weakness

In large breeds of fowls, and especially when being bred "in and in," so that the stamina of the system is lowered, there is a deficient growth of bony matter, and the birds are weak, squatting around or walking on their hocks. It may be remedied by giving the J.K., morning and night, and bones or oyster shells should be burned in the fire, and then pounded small, and the dust occasionally mixed with the food or placed where the fowls have access to it. This will increase the deposit of ossific matter and impart strength to the legs.

Giddiness

Which is liable to occur in over-fed birds, if suffered to continue, may result in apoplexy. A dose or two of the A.A., will equalize the circulation and remove the difficulty and danger.

Lice

The symptoms of lice are too well known to require description. Where fowl have ample range and well ventilated, sunny coops, the fowl will usually keep fairly clear of lice, particularly if they can find a sandy spot for a dust bath.

However, if a flock becomes badly infested, measures must be taken to kill the lice on the individual birds. This is best done by sprinkling powder on the bird. Pyrethrium powder commonly called Persian Insect Powder, is good, or, the following powder is recommended by the Maine Experiment Station, as being the most effective, yet cheapest, that they have been able to find.

Take 3 parts gasoline and 1 part cresol, mix these together and add gradually with stirring enough plaster of paris to take up all the moisture.

Either of these powders should be dusted on the chicken, particularly around the vent, the under side of the body and beneath the wings.

For young chicks greasing is usually better than dusting. Use either lard, or better, lard and sulphur. This should be applied by the finger, to the head, neck, under the wings and around the vent.

Indigestion—Loss of Appetite

If, as sometimes happens in consequence of overfeeding or the use of too highly seasoned food, fowls lose their appetite, and the digestion and thrift is impaired, a change to soft, well cooked food, and the use, night and morning, of the J.K., will soon correct the difficulty.

Liver Disease

There are several different diseases that affect the liver, but since the external symptoms, causes and treatment are the same for all of them, it is of no practical value to differentiate between them.

Liver disease is caused by insufficient exercise, confinement in damp quarters, and too rich feed. Therefore it is not so common in Summer and Fall, and is most common in the Spring after the fowl have been more or less confined during the winter.

Symptoms.—The fowl die often with little apparent reason, but on examination the liver will be found either too large or too small, or in other unnatural condition.

TREATMENT.—Plenty of open air exercise, with green feed will gradually get the flock back in shape, except perhaps for a few in which the disease has already gone too far to stop it.

Moulting

We should take into consideration the great drain upon the system of fowls in moulting. Not only are the ordinary wastes of the body to be maintained, but the old summer coat of feathers is to be discarded and an entirely new one to be produced, involving in its growth all the essential elements of which the feathers are composed. If these substances—lime, carbon, sulphur, silex, etc.—are not to be had in the food provided for them, or are imperfectly produced or eliminated, the work drags and the organism suffers, and waste of flesh, poverty of the system or illness is the result. Hence it is a wise precaution, during the season of moulting, to allow the flock a more generous supply of food, and of better quality than usual, and to exercise more than ordinary care in housing and shelter. Fowls that have fair feed and a reasonable range will rarely require special care, but those confined are more apt to suffer. Any stimulating food is of advantage. Hemp seed is very beneficial, and iron is invaluable. An *acetate* of *iron* may be readily made by putting some nails or other bits of iron in *cider*. This, after standing a day or two, may be used in mixing the feed. More cider may be added as required, and so the cider and iron may be kept and used during the entire moulting season. The I.I., is the proper remedy, and should also be given two or three times per week, or even more frequently if the birds are suffering much.

A little care and attention in this respect will shorten the period of moulting and bring the birds out in better health and vigor and better plumage.

Pip or Chirp

Young chickens are affected by a peculiar form of disease termed pip or chirp, from the short, spasmodic chirups which they make during the complaint. The chickens mope about uttering this peculiar cry, and seek refuge in solitary places, as it is the instinct of animals and birds to pick at, maim or destroy the sick or maimed among them. The chicken is hot and feverish, although trembling violently, and they are extremely tender on being handled, and soon a dark-colored, dry, horny scale will be found at the end of the tongue, and the beak may turn yellow at the base; the appetite fails and the plumage decomes ruffled, and they gradually sink and die. It is doubtless caused by exposure to wet weather, as the light down is easily saturated, and is long in drying. The A.A., may be given at first, one or two doses, and afterwards the J.K., three times per day. The removal of the scale at the end of the tongue is of no consequence. That is not the cause of the disease, but the result, and the tongue will come all right so soon as the chick is restored in his circulation and digestion. Of course the birds should be well housed and fed on soft food.

Roup

Almost all forms of chronic catarrh in fowls go by the name of roup. It usually begins as a severe cold, caused by exposure to cold, wet and damp. There is discharge from the nostrils, at first of thin mucus, and which soon becomes opaque, and even offensive, and the entire cavity of the nose may become filled up; froth and mucus fill the inner angle of the eye, the lids are swelled and often the eye-ball quite concealed, and in severe cases the entire face is considerably swelled. It is said to be contagious, but is probably only so in extremely virulent cases. But the fact that a flock of fowls are exposed to similar disease-making conditions, and that many are taken nearly at the same time, would counte-

nance the idea of its contagious character. The causes of the disease should be avoided by providing shelter for chickens during the cold, chilly, fall nights, and not permitting them to wander around without feed in the cold, raw mornings. A plentiful supply of nourishing food and comfortable shelter when sudden cold changes of weather occur, will do much to prevent the appearance of this disease and the consequent loss. The iron and cider with the food will be useful, and onions cut up fine and mixed in the soft feed, is also an invaluable agent for fowls affected with any form of roup. The A.A., is the proper remedy, two or three doses at first, during the inflammatory stage. Then the C.C., is the proper remedy, and may be relied upon. Give it as often as three, or even four times per day, in extreme cases. Of course the severe cases should be well housed, have warm and dry lodgings, free from exposure to open windows and cold drafts of air, as the bird is liable to new chill from fresh exposure. Washing the head and syringing out the nose, and washing the throat with salt and vinegar, or even with water and castile soap, is rarely necessary and really of very little consequence. As the catarrh passes off, the secretions will become healthy and natural, and all these discharges disappear.

Soft Eggs

May be a sign of over-feeding, but are more commonly from the want of material of which to form the shell—lime, starch, sulphur, etc. The flock should have an occasional feed of mashed potatoes and lime; old mortar; burnt oyster shells, pounded up, should be placed in reach. An occasional dose of J.K., will be beneficial.

White Diarrhea

This disease probably causes more loss among newly hatched chicks than all other diseases combined. It attacks chicks when from 1 to 3 weeks old, and usually when the chicks are over 3 weeks old they are safe from it.

White Diarrhea is caused by a germ, and when a flock have this disease, it will be found that some of the chicks were born with this disease and gave it to the others.

When a flock of chicks have this disease, most of them will die, but a few live through, and it is found that these few who live through are the ones that carry the disease. The germs in this case resides in the ovaries and are in every egg such a hen lays. The chicks hatched from these eggs develop the disease and communicate it to the others.

Symptoms.—The chicks appear stupid and remain under the hen most of the time as if cold; they do not run around with the others but remain by themselves. The feathers are rough and the wings droop. They lose weight and eat little or nothing. A white diarrhea appears from which the disease gets its name; this is usually creamy, but sometimes there is a little brown in it. This discharge is sticky and sometimes even plugs up the vent. The chick will often utter a shrill cry, apparently of pain when voiding.

Treatment.—No satisfactory cure has yet been found for this disease and we must rely on prevention.

Where eggs are hatched under a hen, if one of a setting develops this disease, the entire setting should be killed and the nest and quarters of the setting disinfected.

In using incubators, the eggs should be taken on the 18th day and placed in wire trays or baskets, holding about 12 eggs each, and after the chicks are hatched they should remain in these trays until 48 hours old, then any trays that have developed the disease should be destroyed.

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SINGLE BOTTLE, Medium	2.00
SINGLE BOTTLE, Large	3.00

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STABLE CASE, Handle, Lock and Key, containing Veterinary Manual. Ten bottles Remedies. Jar Veterinary Oil and Medicator complete	7.00
STABLE CASE. Handle, Lock and Key, containing Veterinary Manual, Ten medium size bottles Remedies Jar Veterinary Oil, and Medicator, complete	20.00
STABLE CASE, Handle, Lock and Key containing Veterinary Manual, Ten large size bottles Remedies, Jar Veterinary Oil, and Medicator, complete	30.00
JAR VETERINARY OIL	1.00
HUMPHREYS' VETERINARY MANUAL	.50
MEDICATOR (for administering Remedies)	.25

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Humphreys' Homeo. Medicine Company

Cor. William and Ann Sts., New York

SKETCH OF A HORSE,

Showing the principal points and the external parts to be examined for injuries, defects and diseases.

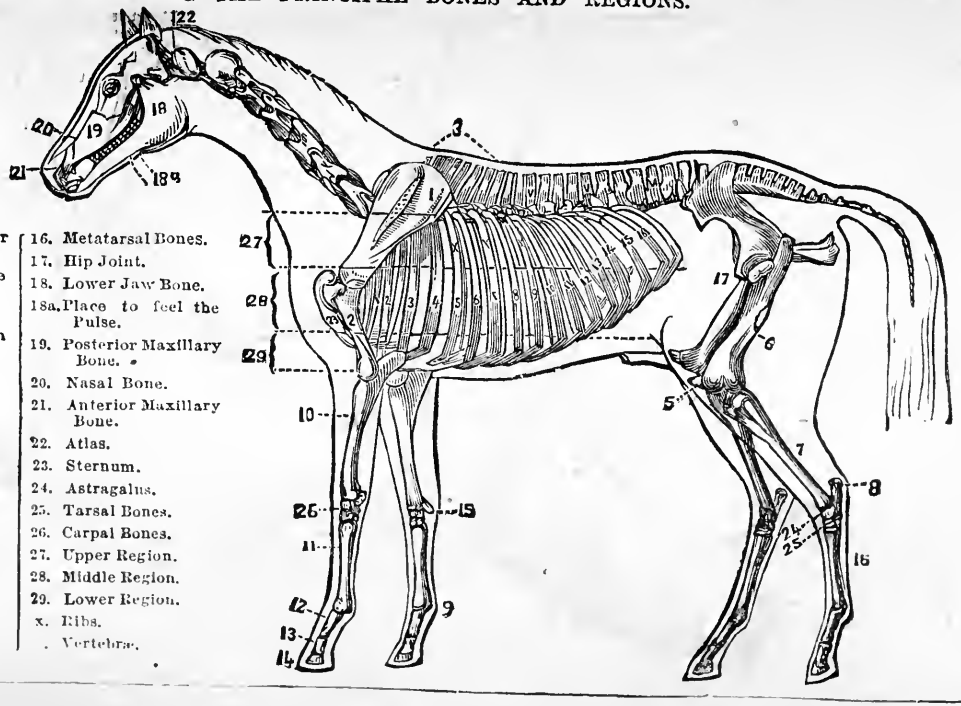
1. Muzzle.
2. Place of Fistula from Teeth.
3. Place of Mumps.
4. Place of Poll-evil.
5. Angle of Jaw.
6, 6. Crest.
7. Place of Fistula from Vein.
8. Throttle, Thropple or Wind-pipe.
9. Shoulder-point: place of Sores from Harness.
10, 10. Shoulder-blade.
11. Withers; sometimes the seat of Fistula: height of horses reckoned from the Ground to the Withers.
12. Front of Chest, Bosom, or Breast.
13, 13. The True Arm. (See Skeleton.)
14. Elbow; often the seat of Tumours.
15. Arm, or Fore-arm.
16. Knee, or Wrist; may be swelled, having a fungous growth; or the skin may have been broken—evidence of a fall.
17, 17. Back Sinew: place of Curb.
18. Place of Disease of Skin above the Coronet—Crown scab.
19, 19. Fetlock, or Pastern Joint
20. Coronet.
21, 21. Heel.
22. Contracted Hoof.
23. Mallenders.
24. Sallenders.
25. Seat of Splint, or Exostosis, on Side of Cannon-bone.
26, 26, 26. Seat of Bursal Enlargements.
27. Back, or spine.
28. Place of Saddle-galls.
29, 29. Girth, or Circumference in Measurement.
30. Place of Injury from Pressure of Girth.
31. Barrel, or Middle-piece,
32. Loins.
33. Croup.
34. Haunch.
35. Flank.
36. Seat of Warts.
37. Sheath, or Prepuce.
38, 38. Gas-skin, or Lower Thigh
39. Root of the Dock, or Tail.
40. Hip-joint—Round or Whirl-bone.
41. Rat-tail.
42. The Quarters.
43. Point of the Hock; seat of Capped-hock.
44. 44. Cannon-bone.
45. Place of Spavin.
46, 46. Hoof.

SKELETON

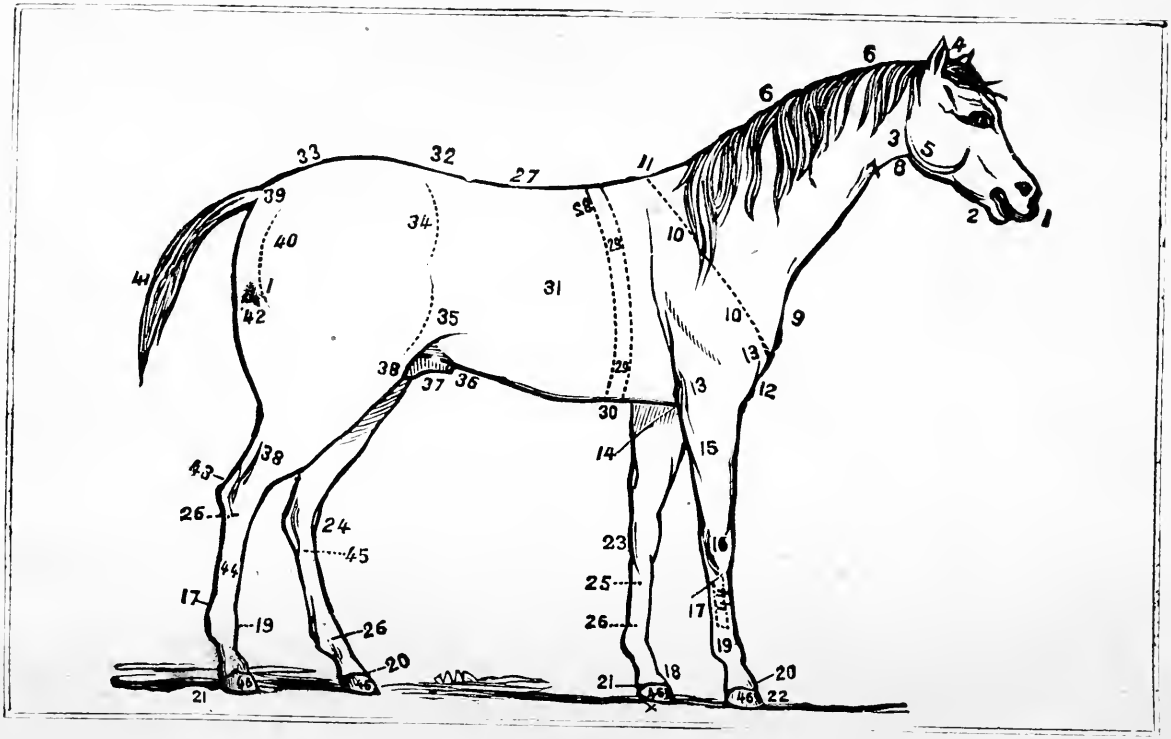
OF THE

HORSE.

SHOWING THE PRINCIPAL BONES AND REGIONS.



1. Scapula, or Shoulder Blade.
2. Humerus, or True Arm.
3. Withers.
4. Pelvis, or Haunch Bone.
5. Patella, or Stiffle.
6. Femur.
7. Tibia.
8. Os Calcis.
9. Sesamoid Bones.
10. Radius.
11. Metacarpal Bones.
12. Great, or Upper, Pastern bone.
13. Small, or Lower, Pastern Bone.
14. Os Pedis.
15. Trapezium.
16. Metatarsal Bones.
17. Hip Joint.
18. Lower Jaw Bone.
18a. Place to feel the Pulse.
19. Posterior Maxillary Bone.
20. Nasal Bone.
21. Anterior Maxillary Bone.
22. Atlas.
23. Sternum.
24. Astragalus.
25. Tarsal Bones.
26. Carpal Bones.
27. Upper Region.
28. Middle Region.
29. Lower Region.
x. Ribs.
. Vertebræ.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An Ointment For

External use on Dumb Animals

For Burns or Scalds; Sores or Indolent Ulcers, Sore Scabby, Harness, Collar or Saddle Galls or Chafings, Sore Teats; Fistulas or Deep-Seated Ulcers; Broken Knees or Open Joints; Old Sores; Horny Places or Warts; Hot Swellings, Boils, Scratches; Greased or Cracked Heels; Broken Hoof, Sand or Quarter Crack Corns; Tender or Bruised Soles; Dry Shaly or Ill-Growing Hoofs; Castration, Docking, Dehorning etc.

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(COMPOUND.)

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4	**Diarrhea,** of Children and Adults
5	**Dysentery,** Gripings, Bilious Colic
6	**Cholera Morbus,** Vomiting
7	**Coughs,** Colds, Bronchitis
8	**Toothache,** Faceache, Neuralgia
9	**Headache,** Sick Headache, Vertigo
10	**Dyspepsia,** Indigestion, Weak Stomach
11	**Suppressed Menses** or Scanty
12	**Leucorrhea** or Profuse Menses
13	**Croup,** Hoarse Cough, Laryngitis.
14	**Eczema,** Eruptions, Erysipelas.
15	**Rheumatism,** Lumbago.
16	**Malaria,** Fever and Ague
17	**Piles,** Blind or Bleeding, External, Internal
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19	**Catarrh,** Influenza, Cold in the Head
20	**Whooping Cough,** Spasmodic Cough
21	**Asthma,** Oppressed, Difficult Breathing
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No. 2—For Worm Diseases, Worm Fevers; Worm Colic; Itching of the Anus, or Wetting the Bed from Worms; Irregular or Capricious Appetite, or Emaciation from Worms; Long Round Worms; Pin Worms.

No. 3—For Infants Diseases, Sleeplessness, Colic and Crying of Infants or young Children. such as Restlessness; Irritation and Congestion from Teething and Feebleness of Infants; Irregular Teething; Diarrhea of Infants.

No. 4—For Diarrhea or Loose Bowels, in Children or Adults; **Summer Complaint** or **Cholera Infantum;** Thin, Loose, Yellowish, Greenish or Watery Stools, Diarrhea from Indigestible Food; Diarrhea from the use of Fruit; Diarrhea from Traveling or Change of Water; Painful Diarrhea, Chronic Diarrhea or Loose Bowels.

No. 5—For Dysentery, Colic, Painful or Bloody Diarrhea; Fall Dysentery or Bloody Flux; Slimy, Scanty Mucus; Greenish and Bloody Stools, attended with violent Colic or Straining and Tenesmus; Painful Diarrhea; Colic; Bilious Colic; Hemorrhoidal Colic.

No. 6—For Cholera Morbus; Nausea and Vomiting; Sickness at the Stomach; Vomiting with Diarrhea; Thin, Loose, Urgent or Rice-Water Stools, with vomiting, Coldness, Paleness, Blue Lips and Cramps; Morning Sickness.

No. 7—For Coughs, Bronchitis, Cough, with Pain and Stitches in the side or Breast; Cough with Pain or Soreness in the Throat and Bronchia; Hoarseness or loss of Voice in Clergymen; given after or in alternation with **No. 1.** Chronic Bronchitis or Laryngitis, with Cough. Hoarseness, Loss of Voice or Weak Voice, Scanty Expectoration Often used in alternation with **No. 1,** especially if there is heat or fever.

No. 8—For Neuralgia, Toothache, Faceache, Nervous Pains, Toothache in Sound Teeth, or in Old Decayed Teeth: Toothache in Children; Faceache; Tic Douloureux; Swelled Face; Darting, Sharp or Stinging Pains; Neuralgic Pains; Old Neuralgia.

No. 9—For Headaches, Vertigo, Sick Headaches, Congestion to the **Head;** Bilious Headaches; Nervous Headaches and Sick Headaches, with Nausea and Vomiting; Congestive Headaches, also **No. 1;** Vertigo or Dizziness; Swimming of the Head; Heat, Heaviness or Fullness of the Head, also **No. 1.** Often used in alternation with **No. 1,** for Congestive Headaches, or with **No. 10** for Bilious Headaches.

No. 10—For Dyspepsia, Indigestion, Constipation and Bilious Complaints; Weak Stomach, rising of Food; Water Brash, Coated Tongue, Loss of Appetite, Loathing of Food; Constipation, or Costive Bowels; Scanty, Knotty, Small Hard Dry or Insufficient Stools, Biliousness Yellow or Earthy Complexion; Bad Taste in the Mouth; No Appetite, Drowsiness, and Costive Bowels, Acid Stomach Everything eaten becomes Sour; Old Chronic Dyspepsia, when everything disagrees; Headache from Indigestion; Chronic Constipation; Flatulence and Bloating of the Abdomen after eating.

No. 11—For Female Irregularities; Delaying, Scanty or Painful Menses; Delaying or too Tardy or Late-appearing Menses; Suppressed or Obstructed Menses, from cold, fright, weakness or morbid cause; too Scanty, too Pale, or Colorless Menses; Green Sickness or Chlorosis; Headache or Colic Pains

during the Menses: Intermitting or Irregular Menses; Leucorrhea, with Scanty or Delayed Menses.

No. 12—For Whites, or Leucorrhea; Too Profuse Menses; yellowish, thick, offensive or corrosive discharge; Menses too soon and too long continued; too profuse and debilitating Menses; Constant Bearing Down; Old Debilitating Leucorrhea.

No. 13—For Croup; Hoarse Cough, Oppressed Breathing; Horse, Croupy Cough; Inflammatory Croup; Spasmodic Croup, with Quick Pulse, Hot Skin, Difficult, Labored Breathing and Hoarse Cough; Laryngitis, with hoarseness, Pain in the Throat, Painful Cough and Scanty Expectoration; Loss of Voice.

No. 14—For Eczema, Eruptions, Salt Rheum, Acne, Ulcers; Erysipelas, with Hot, Smooth, Swelled Skin or Blisters; Salt Rheum or Rough, Scaly, Chapped Eruption on the Hands or other parts; Pimples or Blotches on the Face; Prickly Heat; Nettle Rash, like Stings of Insects; Scald Head.

No. 15—For Rheumatism; Lameness, Stiffness and Soreness; Acute Rheumatism, with Painful, Hot Swelling of the part; Chronic Rheumatism, with Lameness, Stiffness and Soreness of the part; Sciatic Rheumatism, with pain in the Hip, Knee or Leg of the affected side; Lumbago, or pain across the Loins or Back; Old Rheumatic Pains or Lameness. In alternation with **No. 1,** for the acute form; and in alternation with **No. 10** for Chronic Rheumatism.

No. 16—For Malaria, Fever and Ague, Dumb Ague, Intermitting Fever, Malarial Fevers; Effects of Malaria; Old suppressed Agues.

No. 17—For Piles and Hemorrhoids, Blind or Bleeding, Internal or External, with Fullness, Itching and Burning; Inflamed, Hot, Burning, Sore Tumors around the Rectum; Falling of the Rectum; Itching of the Anus.

Apply Humphreys' *Witch Hazel Ointment* (*Comp.*) externally.

No. 18—For Sore Eyes; Old Chronic, Sore, Inflamed or Weak Eyes, with Heat, Redness, Scalding Tears, and Dread of Light; Painful, Red, Inflamed

Eyelids with constant secretion of Mucus; Acute Inflamed Eyes or Eyelids. Also for Easy Fatigue of the eyes, from reading or effort; Intolerance of Light.

No. 19—For Catarrh, Dry or Flowing, Recent or Chronic; Influenza; Mucus Discharges from the Nose; Acute Catarrh, with flow of Scalding Mucus, Tears and Sneezing; Old Chronic Catarrhs, with profuse discharge of Thick, sometimes Offensive Mucus, Obstructed Nose, and often Loss of Taste or Smell; Chronic Cold in the Head; Catarrh of Children; Offensive Breath with Catarrh; Cough, with Profuse discharge from the Nose, and Copious Expectoration; Loose Catarrhal Cough in Children; Soreness, or Dry Crusts forming in the Nose, with dry or Moist Catarrh.

No. 20—For Whooping-Cough; Irritating, Spasmodic and Convulsive Coughs. Given early arrests the development of the Cough; and given at any stage; allays the irritation, moderates the Cough.

No. 21—For Asthma, Difficult Breathing, Cough and Expectoration; Old Chronic Asthma, with attacks of Oppressed, Labored, Difficult Breathing, Cough and Expectoration; Dry Asthma; Humid Asthma; Stridulous or Sighing Respiration.

No. 22—For Ear Discharges; Earache; Diseases of the Ear; Noise in the Head, Discharges from the Ear, in consequence of Measles, Scarlatina or other diseases; Inflammation of the Internal Ear; Old Offensive Discharges from the Ear, Noises, Buzzing, Ringing or Piping in the Ears.

No. 23—For Enlarged Glands or Tonsils; Enlarged or Inflamed Glands under the Jaw, around the Neck or under the Arm-pits; Itching and Burning of the Legs

No. 24—Tonic Tablets for General Debility; A General Tonic for Loss of Appetite, Impaired or Weak Digestion; Physical and Nervous Weakness; Want of Strength, Lassitude, Tired, Weary Feeling, even on Waking; Easy Fatigue; Sweat on going to Sleep; Debility, the result of severe illness or drain upon the system; Want of Tone or Iron in the Blood. An invaluable remedy for persons under severe mental or physical strain, or overwork, or the debility resulting from it.

No. 25—For Dropsy, Fluid Accumulations with Scanty Secretions; Anasarca or General Dropsy; Dropsy of the Abdomen; Dropsy of the Chest, Heart or Head; Dropsy with Tumid, Doughy Swellings and Scanty Secretions; Dropsical Swelling of the Feet or Legs.

No. 26—For Nausea and Vomiting; Sea-Sickness and Sickness from Riding in Carriage, Railroads, Automobiles; Headache from Carriage or Car Riding.

No. 27—For Disorders of the Kidney and Urinary System. Painful, Retarded, Scanty Urination; Catarrh of the bladder in alternation with the **No. 30;** Sand and Unhealthy Deposits in the Urine; Thick, Turbid, Frothy Urine filled with mucus and brick-dust deposits; Too Frequent Discharge of Urine; Nightly Enuresis; Pain in the region of the Kidney and Bladder; Difficult, Slow, Interrupted and Insufficient Discharge in old people; Bloody Urine or mixed with blood. Compare also **No. 30.**

No. 28—For Nervous Prostration or Neurasthenia.—A general condition of Neurasthenia or Nervous Prostration, want of energy, low spirits with backache, headache, etc. Lack of tone of the nervous system with sluggishness of the mind; difficult mental concentration; absent mindness; extreme nervous condition from anxiety, worry, business strain, overstudy, etc. Functional weakness of various organs.

☞ **N. B.—Packages of Three Flasks of Pills and One Flask of Powder and One of Tonic Tablets.—** Powder to be taken each morning while the pills are taken noon and night, and the **Tonic Tablets** taken before each meal.

No. 29—For Sore Mouth or Canker; Fever Blisters, Cold Sores on the Lips; Ulcerated Lips; Sore Mouth or Canker in adults, children or infants; Nursing Sore Mouth; Morning Sickness of expectant Women; Indigestion; Ulceration or Canker of the Mouth.

No. 30—For Diseases of the Urinary Organs; Urinary Incontinence; Frequent, Painful or Scalding Urination; Inability to retain the Urine; Catarrh of the Bladder; in alternation with **No. 27;** Frequent Scalding Urination, with Mucus Discharge; Urine loaded

with Mucus; Nightly Wetting-the-Bed in children; Nocturnal Urinary incontinence. **No. 30** is to the bladder and passages what **No. 27** is to the kidneys—hence so often used in connection.

No. 31—For Painful Menstruation; Spasms, Hysteria, Pruritus; Menstruation with Painful Bearing Down; Menses, with Painful, Pressive, Cutting, Griping, and even Spasms; Too Profuse Menses, with Pain and Distress; Itching and Burning Irritation of the Organs; Laughing, Crying, Hysterical Movements, or Cramps at the monthly period; Too Early and Too Long-continued Menses; Leucorrhea, like white of eggs.

No. 32—For Disorders of the Heart, Palpitations, Flushes; Irregularities occurring at the Critical Age of Women, on Change of Life; Flushes of Heat; Irregular Menses, Wanting or Too Soon, Too Copious and Too Long, with great prostration, nervous and wakeful at the turn of life; Palpitation of the Heart; Irregular or Tumultuous Beating of the Heart; Violent Throbbing or Irregular Beating of the Heart; Painful Spasms through the Chest and Heart; Rheumatism of the Heart; Old Chronic Palpitations of the Heart.

No. 33—For Cramps, Spasms, Convulsions; Convulsions of children or adults with Loss of Consciousness; Spasms or Convulsions of children from the slightest cause; Convulsions of children from Teething, Fright or Mental Excitement; Cramps or Spasms of single limbs; St. Vitus' Dance, with Twitching, Jerking or Strange Motions of single features, muscles or parts; Hysterical Spasms of Hysteria; Easy Numbness of single parts.

No. 34—For Sore Throat and Quinsy; Ulcerated Sore Throat, Tonsilitis, Ulcerated or Enlarged Tonsils; Painful, Difficult, Impeded Deglutition.

No. 35—For Chronic Congestions; Headaches and Eruptions; Habitual Headaches; Heat and Fullness of the Head; Headaches of children; Difficult Teething of children; Scurf and Eruption on the Head of young children; Liability to Take Cold from Slight Exposure.

No. 40—For Insomnia, Sleeplessness, Wakefulness, Restlessness and Nervousness. —Fullness or beating in the head, or red face, such as people of full habit are subject to, and from Indigestion.

Number "40" induces repose, and natural, refreshing sleep.

No Narcotic, No Opiate, No Dope, No habit forming Drugs, Strictly Homeopathic.

Take six pellets at bed time, or hourly, if wakeful during the night. A cracker or glass of milk at bed time, draws the blood from the head, accelerating the action of **Number "40."**

No. 77—For Grip, Grippe, La Grippe, Influenza, Hay Fever; Flowing Eyes and Nose, Coryza; Sneezing, Cough; Feverishness, Restlessness, Irritability; Heat or Dryness of Throat, Thirst; Pain and Soreness in Head, Back and Lungs; General Prostration and Despondency. For La Grippe, or Epidemic Influenza. Colds which are obstinate, that "hang on" and do not yield to treatment, find relief from **No. 77.** For extreme fever, alternate with **No. 1;** for Violent Cough or Chest Pains, alternate with **No. 7.** But in general, the **No. 77** is sufficient.

First Symptoms.—*Coryza,* or nasal irritation or discharge, *cough,* sore throat; *headache, backache;* and general depression.

More Serious Symptoms.—*Pain in head, back, chest, or limbs,* sometimes of sudden and prostrating *neuralgic* character; sometimes *cerebral excitement;* even delirium; extreme *prostration, languor or debility, depression of mind,* even after the first violence of the attack has passed away; *bronchitis or broncho-pneumonia* may become serious complications.

"Rose," "Hay," "Autumn" or "Peach" Catarrh.—For this, to which some persons are remarkably susceptible (coming on *annually,* generally between 20th of August and 1st of October), **No. 77** is an invaluable remedy. Taken early, days before the attack, continued persistently four times a day, it relieves the sneezing, lacrymation and asthma; and *by its continued use, from season to season,* tends to lesson the liability of the disease.

Moderation in the use of coffee and tobacco; avoidance of exposure; keeping warm and using only light and easily digestible food, will greatly aid the beneficent action of **No. 77.**

No. 24 Tonic Tablets will be found beneficial after an attack.

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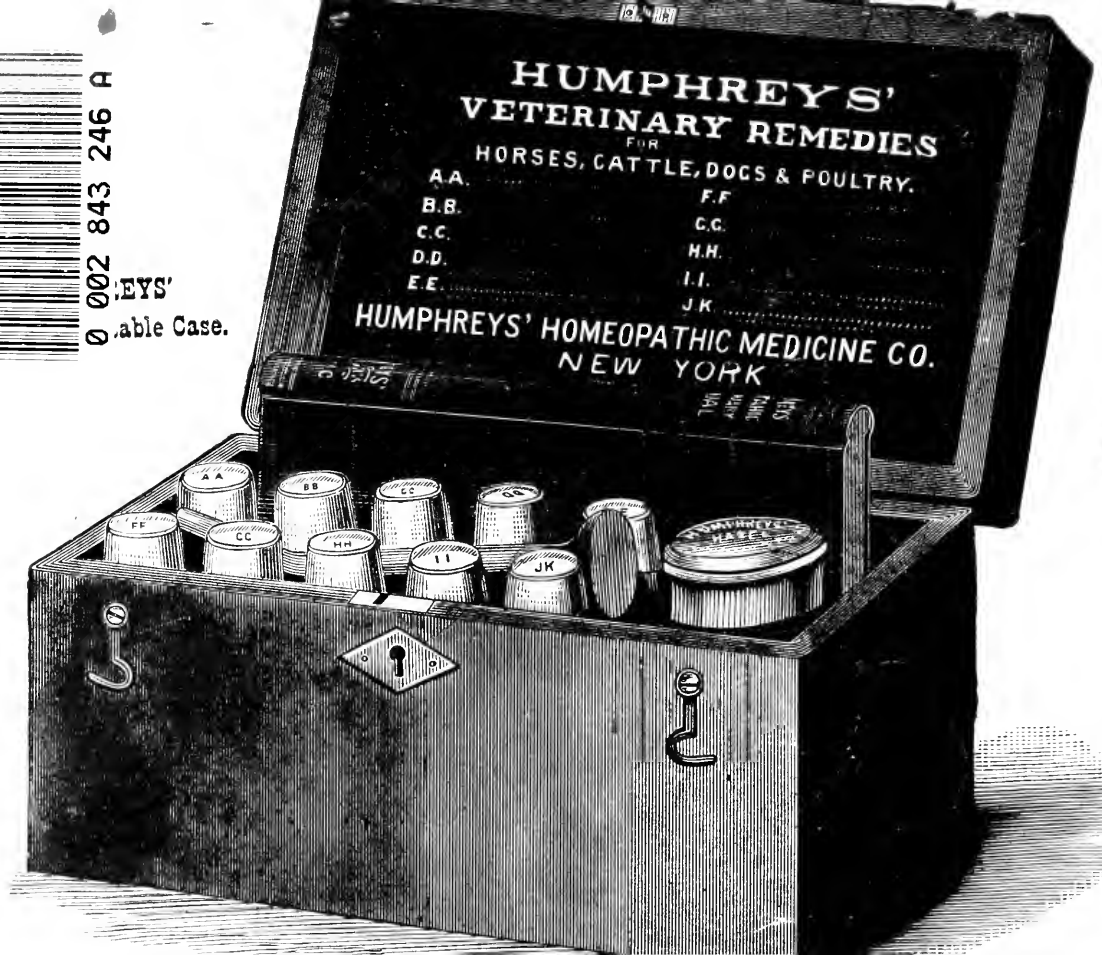

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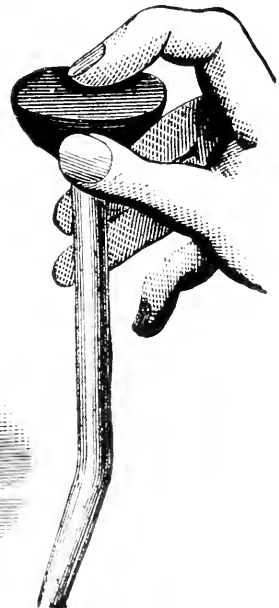
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